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COMPANION TO ROMAN HISTORY

BY

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PREFACE

THIS book was planned as a companion volume to the *Companion to English History* (Middle Ages), edited by Mr. Barnard. That it follows the earlier work after a considerable lapse of time is due to the fact that it has been written by a single author instead of a number of contributors. The subjects treated are, for the most part, the same; but it has been thought desirable to deal in the present volume only with such aspects of Roman life as could be illustrated from material remains, and to exclude those which may be adequately studied in manuals unprovided with illustrations. The author desires to express his obligations to Professors Cichorius, Delbrück, Haverfield, Puchstein, and Schneider, Dr. T. Ashby, Major Schramm, and Horace Sandars, Esq., F.S.A.; and the following publishers, Messrs. Fontemoing & Cie, Herr Wilhelm Engelmann, Messrs. Giesecke & Devrient, Signor E. Loescher, Mr. B. T. Batsford, Herr Georg Reimer, for permission to use illustrations and other services rendered.

The bibliographies appended to each section of the work are not intended to give a complete list of works dealing with the subject, but to direct the reader who desires to make a further study to fuller sources of information. Many of the subjects treated have been much discussed in recent years, and where the results of such research have not yet been incorporated in standard works of reference the reader is directed to such periodical publications, &c., as may be consulted with advantage.

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CHAPTER I

INTRODUCTORY

§ 1. Earliest Settlements of the Italians.

The history of Rome, in the true sense of the word—the *res gestae* of the Roman people—receives no light from prehistoric archaeology; but that science can tell us much as to the growth of civilization in Italy and the settlement in the peninsula of that 'Italic' race of which the Romans in due time became the ruling stock. For this reason it is necessary to summarize briefly the results of the study of prehistoric remains in Italy, and to bring them into relation with the ethnology and early history of the peninsula. In historical times, which began with the introduction of writing, and with it of the means by which a permanent record of events could be kept, Italy was the home of several races distinct in language and civilization. The 'Italic' peoples, in the proper sense of the word, marked off by their cognate dialects as a clearly-defined branch of the Indo-European stock, occupied the centre of the peninsula and the valley of the Po. In the south and south-west, Greek colonists, who brought with them the art of writing, had gained a firm foothold upon the coasts. In the north-east the Veneti, in the south-east the Messapians, belonged, as the remains of their languages show, to the Illyrian branch of the Indo-European family, interposed like a wedge between the Greek and Italic stocks. The western districts, from the Tiber to the Arno, were inhabited by the Etruscans, whose language was certainly not Indo-European; the question of their origin will be discussed later. Finally, on the north-western coasts and in the Alpine valleys, lived the least civilized of the inhabitants of Italy, who were included with the population of south-eastern France under the name of Ligurians.

Of the settlement of these races in the peninsula we possess no trustworthy record save that preserved by Greek historians, from whom we gather that the westward movement of Greek colonization took place in the second half of the eighth century B.C. It is true that Greek tradition placed the founding of Kyme (*Cumae*) on the Bay of Naples as early as 1049 B.C.; but it has been proved that this statement is baseless, and the earliest finds in the Hellenic necropolis of Kyme so closely resemble those of the first Greek settlements in eastern Sicily, that we can have no doubt that western Italy was colonized scarcely, if at all, later, and certainly not earlier than that island. The Greek traditions of the coming of the Etruscans will be mentioned presently. We learn but little of the other races of the peninsula, save that the Umbrians were dispossessed by the Etruscans, and that the Sicels, or pre-Hellenic

inhabitants of eastern Sicily, had entered that island from the north at an epoch so recent as to admit of dating.[1] The traditions preserved by Roman antiquarians concerning their early settlements in Latium are probably to be traced to the Syracusan historian Antiochus, who was somewhat older than Thucydides; Philistus, who wrote early in the fourth century, spoke of them as a Ligurian stock. We know but little of their language, for the words enumerated by Varro as common to Latin and Sicilian were clearly borrowed in historical times; and an inscription of ninety-nine letters scratched on a vase from Centorbi (Κεντόριπα), now in Karlsrühe, still lacks its interpreter.[2] As for the legends of early Latium, they are so deeply tinged by Greek speculation as to be practically valueless; even the Aborigines of whom they speak amongst the earliest settlers in the district found their way into Roman tradition from the works of Callias and Timaeus, which were written about 300 B.C.

From these vague and shifting theories—we can hardly call them traditions—we turn to the archaeological record, which the rapid progress of discovery in recent years enables us to trace with ever-increasing distinctness. In the second chapter of his *History of Rome*, Mommsen wrote that 'nothing has hitherto been brought to light to warrant the supposition that mankind existed in Italy at a period anterior to the knowledge of agriculture and of the smelting of the metals'. We now know that every period which archaeologists distinguish in the history of early man in Europe is represented by finds in Italy, and that the development of primitive culture in the peninsula can be exhibited in its continuity.

The remains of the Old Stone Age ('Palaeolithic' period) need not detain us long. Flint tools of palaeolithic type, chipped, though not polished by human hands, have been found in many parts of Italy, including the Roman Campagna; and in the caverns of Liguria and the Maritime Alps they are associated with the bones of several animal species now extinct, such as the cave-lion (*felis spelaea*) and the primitive ox (*bos primigenius*). Thus the presence of man in Italy in the quaternary period is established beyond doubt; but the works of his hands have not survived in that rich variety of types which we find in France, nor have the primitive carvings and engravings on objects of bone which bear witness to his artistic endowment been discovered in the peninsula.

The New Stone Age ('Neolithic' period) deserves closer attention. The palaeolithic cave-dwellers can scarcely be said to have possessed a civilization properly so called; but the men of the Neolithic Age had the germs of a culture which developed without

[1] Hellanicus and Philistus placed their migration less than a century before the Trojan War; Thucydides 'less than 300 years' before the Greek colonization. For the Sicani see below, p. 3.

[2] Facsimile in Winnefeld, *Beschreibung der Vasensammlung*, Karlsruhe, 1887; pronounced non-Aryan by Kretschmer, *Einleitung in die Geschichte der griechischen Sprache*, p. 43 n.; but cp. Fröhner in *Philologus*, Suppl. v, p. 73.

a check into that of historic times, and lived in organized groups; nor can it be doubted that their blood runs in the veins of the population of modern Italy. Whether they exterminated or absorbed the palaeolithic population, they certainly came into direct contact with it; for on the spurs of the Alps above Verona there have been found workshops for the manufacture of palaeolithic tools, while these products have been discovered in association with neolithic remains; and in the valleys of Picenum the transition from the older to the newer culture seems plainly traceable. It is natural to suppose that a civilization with such distinct features as that of the New Stone Age was introduced into Italy by an incoming race; and the long, narrow skulls of the skeletons found in neolithic graves point to a close relationship of this primitive stock with their contemporaries in France, Spain, North Africa, and in fact throughout the Mediterranean basin. The Ligurians could, doubtless, amongst the historical people of Italy, trace the purest descent from the Mediterranean stock; it is also to be noted that the Sicani, whom ancient writers describe as the earliest inhabitants of Sicily, are by them asserted to have been 'Iberian' immigrants from Spain, and though the literal truth of this statement may be doubted, it is probable enough that before the coming of the Sicels the island was inhabited by a branch of the Mediterranean race.

Not only are the polished stone implements and hand-made pottery (sometimes decorated with simple geometrical patterns) characteristic of the Neolithic Age found throughout Italy, but the habitations of their makers have been discovered in many parts of the peninsula. They have left traces of their presence in the caverns previously occupied by palaeolithic man; they also hollowed out artificial caves in the slopes of the hills, which served as burial-places for the dead; but, above all, they formed villages of half-buried circular or oval huts with a central hearth, the remains of which are known to Italian archaeologists as *fondi di capanne* (hut-foundations). In a single valley in Picenum as many as fifteen villages, comprising 281 huts, were discovered. But the distribution of these remains, so far as our present knowledge goes, is uneven. In Latium the traces of neolithic man are far from common, and the tombs of Sgurgola (on the slopes of the Monti Lepini, south of the Alban hills), Cantalupo (in the Sabine hills), and Alatri, belong to the latest phase of the neolithic period. Not only are the tools and arrow-heads found therein of advanced type, but the presence of implements of copper shows that they belong to the time of transition called the 'Aeneolithic' period. The Neolithic Age saw the beginnings of commerce and the interchange of commodities. Obsidian, for example, was imported into Picenum at a very early date; and towards the close of the period copper makes its appearance. This was derived not from the deposits of copper ore which exist in the peninsula, but from the East, and though it may have reached Sicily by a southerly

route, it is more likely that the northern districts obtained it immediately from the valley of the Danube. The 'Aeneolithic' period is best represented by the large necropolis of Remedello, near Brescia. Here the bodies of the dead were either interred with the feet drawn up, as was the usual custom in the New Stone Age, or simply laid out. In the graves of women was placed pottery, in those of men daggers, arrow-heads, and axes of polished stone, together with a certain number of copper axes, precisely similar to those found in Hungary.

We thus see that intercourse between Italy and Central Europe was carried on in late neolithic times; and it is to Central Europe that we must trace the origin of the civilization which changed the face of the peninsula in the Age of Bronze. In this case we can have no doubt that the new metal was introduced by a new race: for the settlements of the Bronze Age in North Italy (see Fig. 1) conform to a new and singular type. These villages are all built on pile-structures, similar to the lake-dwellings of Switzerland. In the lake- and river-system of North-West Lombardy, and in parts of Piedmont, we find a group of these pile-villages (*palafitte*) built either in shallow water or in peat-mosses; in the earliest of these objects of bronze are still rare. In the provinces of Brescia and Mantua, which comprise the more easterly portion of Lombardy, and in Venetia, the *palafitte* belong to the Early Age of Bronze, while to the south of this latter group, in the valley of the Po, are thickly scattered the settlements known as *terremare*. These are the remains of villages built on platforms supported by piles driven into the soil. The inhabitants threw all their refuse into these foundations, and when the space was filled up, raised a fresh story of piles on the original platform. These villages are now heaps of black earth mixed with organic matter (*terremare*) which forms a valuable manure, and many were doubtless destroyed for this reason before the attention of archaeologists was drawn to them about 1860. More than 100 are now known, and between eighty and ninety of these have been thoroughly explored. There can be no reasonable doubt that the *terremare* represent the earliest settlements of the 'Italic' invaders of Italy. Their villages are constructed on a severely regular plan, best exhibited in the well-preserved examples of Castellazzo di Fontanellato, in the province of Parma (plan, Fig. 1), and Rovere di Caorso, near Piacenza. The spirit of order which evidently animated these settlers stamps them as the ancestors of the people who were to furnish the models of law and government to succeeding ages. With the help of two straight lines, whose orientation may have been determined by simple astronomical observations, a space was marked out trapezoidal in form, with its acute angles to the north-east and south-west: one of these faced a river or stream.[1] This space was surrounded by a ditch (A) 100 feet wide

[1] Since the streams in question were tributaries of the Po, it follows that to the north of that river this was the north-east angle, to the south of it the south-west.

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and 12 deep, and the earth so dug out was used to form an embankment (B) which was then strengthened by a palisade. An outlet (C) was provided for the water which was diverted from the river to fill the moat, and a single wooden bridge (E) gave access to the settlement. The enclosure was filled with the huts of the inhabitants, built upon pile-foundations and divided into regular blocks by side streets parallel with the main lines of

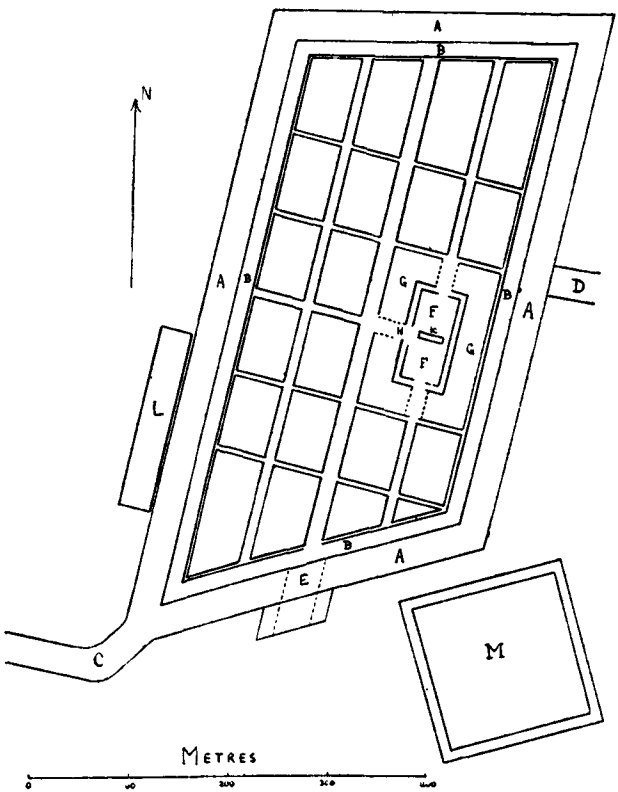


FIG. 1.

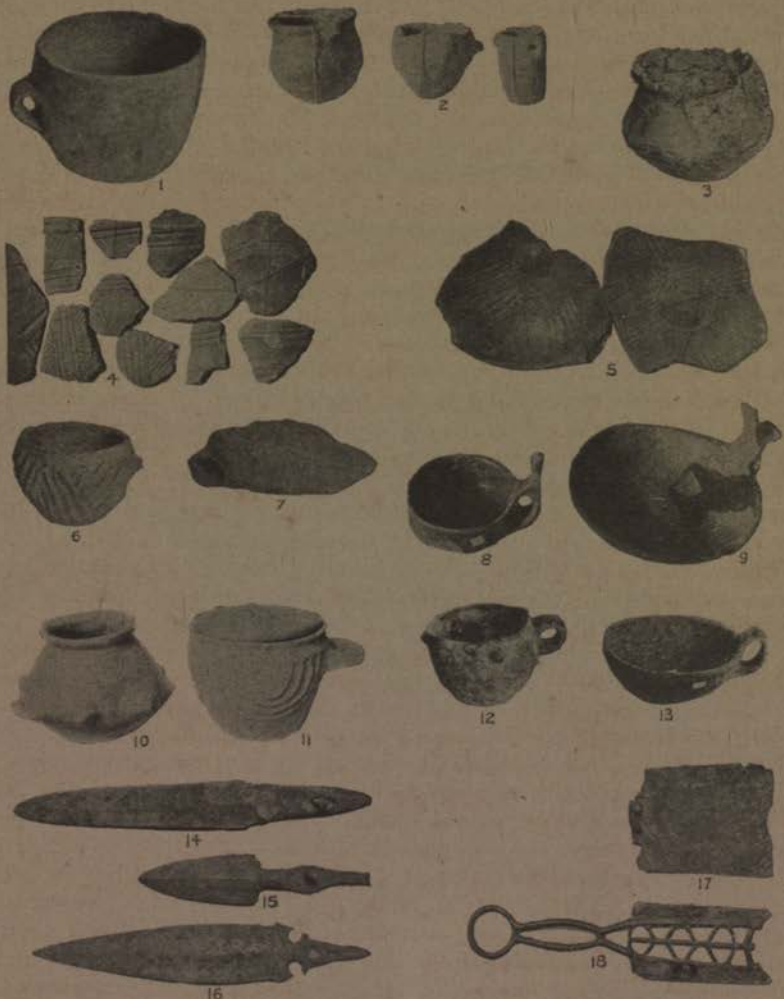
orientation, which were also the main streets of the village. In the middle of one side a space (F) was set apart and surrounded by a ditch (G) crossed by a bridge (H) on the line of the main street. This space was filled by a raised platform of earth, protected by a substantial fence. It contained no buildings, but on the median line two rectangular depressions and a square hollow were found. The burial-ground of the inhabitants (M) lay without the enclosure. It was likewise surrounded by a moat and palisade,

and contained the rude urns in which the ashes of the dead (who were always cremated) were deposited, laid in rows on wooden platforms. It seems clear that in the main streets of these pile-villages we must see the earliest examples of the *kardo* and *decumanus* of Roman camps and colonies (v. *infra*, § 2), and that the raised platform is a primitive *templum*, destined for the worship of the gods, and containing the pits for sacrificial offerings which at Rome bore the name of *mundus*.[1] Nevertheless, though these signs point to a rudimentary capacity for organization and civil development, the material equipment of the dwellers in the *terremare* was rude and scanty. The precious metals, as well as iron, were unknown; and though bronze weapons and implements are commonly found in the *terremare* (Pl. I), those of stone were still in use. Wheat and flax were grown, the latter being spun and woven;[2] and both the vine and the olive were known, though not, as it would seem, brought into cultivation. The ordinary domestic animals, especially the pig, were kept, and bones of the stag, the wild boar, and the bear have been found. The settlers had few ornaments, the bronze *fibulae* and necklaces of later Italian civilization being absent; and the hand-made pottery, of which some characteristic forms are represented on Pl. I, is of the rudest type, and almost without decoration. It has but two features worthy of note—the prevalence of the *ansa lunata* (Pl. I. 9) or crescent-shaped handle and the use of knobs (Pl. I. 10) whose original purpose was doubtless to permit the vase to be carried by means of a rope. We also find tokens of primitive industry in leather, bone, and horn.

As the area of the *terremare* was limited, the increase of population forced the inhabitants to send forth some of their number to found a new settlement. Thus by the multiplication of the parent-cells, the valley of the Po became crowded with pile-villages, and the settlers began to push their way up the north-eastern slope of the Apennines, still retaining their characteristic methods of building. The highest point at which such settlements have been found is Porretta, in the valley of the Reno, nearly 2,000 feet above the sea. The more adventurous, indeed, sought new homes yet further afield. At Offida, in Picenum (149, Map 1), a possible settlement of *terremare* folk was found as long ago as 1879; and in 1899 an unmistakable *terramara* came to light in the neighbourhood of Taranto (154, Map 1). But these and other scattered outposts of the Bronze civilization of North Italy imply no general displacement of population: in the south, particularly in Sicily, the Bronze Age had a wholly different history, which it would be foreign to our purpose to trace in detail; it will suffice to say that

[1] In two instances at Rovere del Caorso and Montata dell' Orto, it can be shown that a furrow was traced round the site chosen for the settlement; cf. p. 14.

[2] It has been said that flax was grown for the sake of the oil derived from its seeds; but spindle-whorls have been found in the *terremare*.



Objects from Lake dwellings and *terremare* (from T. E. Peet, *The Stone and Bronze Ages in Italy*).

its phases correspond fairly closely with those of that Aegean culture as to which the discoveries of Crete and Mycenae have enlightened us.

As was said above, the Bronze Age culture of North Italy was derived from Central Europe; its characteristic products, such as flanged axe-heads and two-edged razors, correspond with those of the Upper Danube basin.[1] It was likewise from Central Europe that the use of iron, and the new civilization which is associated with that metal, were introduced into Italy. Two cemeteries—at Fontanella, in the province of Mantua, and at Bismantova, in that of Reggio Emilia—belong to a period of transition between the Bronze culture of the *terremare* and that of the Early Iron Age; the remains of the Iron Age proper, which are abundant in Northern and Central Italy, but rare in the south, fall into a series of clearly defined groups, whose geographical distribution is shown by Map 2. In the north-west we have a number of stations, of which the best known is Golasecca, clustering about the lakes of Lombardy, with outposts on the Genoese Riviera: in the north-east there was a flourishing Iron Age civilization, doubtless that of the Veneti, whose principal seat was Este. These need not further concern us. Far more important is the so-called 'Villanova' civilization, which derives its name from a site about five miles from Bologna where a cemetery of the Iron Age was excavated in 1853–5. The tombs (about 200 in number) were of the kind called *a pozzo* (well-shaped), and each contained a vase of characteristic shape (Pl. IA, *a*) containing the ashes of the dead, together with arms and ornaments, generally of bronze, but sometimes of iron, and smaller vases, decorated with incised or (later) stamped patterns. The system of ornament is almost wholly geometrical and highly specialized; the maeander is its most noteworthy element. It is quite clear that this civilization succeeded that of the *terremare*, and was not developed by their inhabitants; for its geographical centre is not the same, and it has little in common with the earlier culture except the bare fact of cremation, which we may take to be the mode of burial characteristic of the Italic peoples. The 'Villanova' civilization persisted throughout the Early Iron Age in the district centering about Bologna, where several groups of tombs have been excavated; and its offshoots are found to the south-west of the Apennines both in Etruria and in Latium. In both these districts, however, it assumes distinctive forms which show that the settlers from the north developed civilizations of their own. The typical Villanova vase, for instance, when found in Latium, is reduced in size and does not contain the ashes of the dead, which are often placed in a 'hut-urn', i. e. a vase in the shape of a hovel, circular, elliptical, or—in the latest form—rectangular (Pl. IA, *b*). These hut-urns are found in Etruria

[1] Some pile-dwellings have recently been discovered in Bosnia; see *Glasnik Zemalskogo Muzeia v Bosni i Herzogovini*, vols. xiii–xv, 1901–2; *Mittheilungen aus Bosnien und der Herzegovina*, v, pp. 29 ff.; ix, pp. 3 ff.

Fig. a 'Villanova' urn

Fig. b Hut-urn

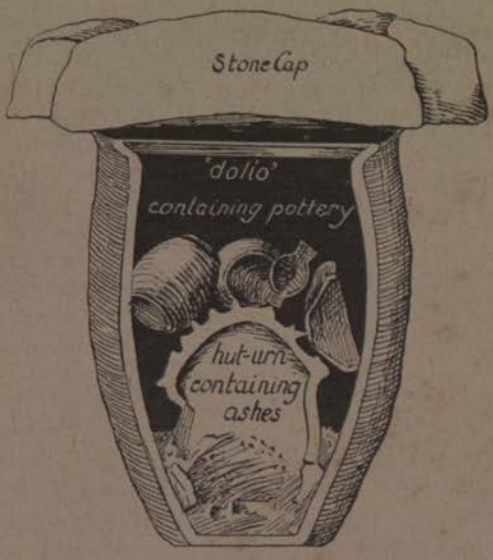


Fig. c Section of cremation grave

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as far north as Vetulonia, but are unknown to the north of the Apennines. The 'Villanova' culture, on both sides of the Apennines, is clearly the creation of 'Italic' settlers; but we cannot speak so confidently of the Iron Age remains discovered in the east and south. On the east coast of Italy are found a number of stations, of which the most northerly and the most typical is Novilara, near Pesaro, where interments took place throughout the Early Iron Age. Cremation is virtually unknown, and the typical products differ from those of Villanova. The skulls found in the tombs are dolichocephalic, and it is natural to conclude that in this part of Italy the old neolithic population, having learnt the use of iron from its neighbours, developed its own culture. To the south of Pescara these stations are found in the river-valleys which run inland towards the hills, and the most southerly of all, Alfedena (Aufidena), is more than 3,000 feet above sea-level, at the head of a route leading to Campania. Strangely enough, however, the inhabitants of this latter district do not seem to have derived their Iron Age civilization from Aufidena; such traces of it as we find point rather to intercourse with Latium. Further to the south a cremation cemetery of the Early Iron Age was discovered in 1900 at Timmari, near Matera, on the border of Apulia; if this represents an 'Italic' settlement, it is (so far as our present knowledge goes) as completely isolated as the *terramara* of Tarentum. Tombs of the same period (with inhumation) have been discovered in Calabria.

The Iron Age settlements in Latium are doubtless those of the primitive Latins; they cluster thickly about the Alban hills, which always remained the religious centre of the Latin stock, and are also found in Rome, where they will presently be described. That the Latins were connected with or descended from the people of the *terremare*, who were driven to seek new homes in the Early Age of Iron, is a probable conjecture. Their speech, together with the cognate dialect of the Faliscans on the right bank of the Tiber, is sharply distinguished from those of the other Italic peoples by its preservation of the guttural which they changed to a *p*-sound. To the north of them we may recognize, in the 'Villanova' culture on both sides of the Apennines, the work of the Umbrians, who are said by tradition to have occupied in early times a far wider territory than that which bore the name of Umbria in later history. We are told that the Umbrians were dispossessed of '300 cities' by the Etruscans,[1] and that amongst the Etruscan foundations north of the Apennines was Felsina, afterwards named Bologna. Now excavation has shown that the 'Villanova' cemeteries of Bologna are entirely separate from those of later date which contain Etruscan inscriptions,[2] and the conclusion is that the earlier graves are those of Umbrians.

[1] Plin. *N. H.* iii. 114.

[2] This was clearly proved by Grenier's excavations in 1906 (*Comptes rendus de l'Académie des Inscriptions*, 1906, 315 ff.).

MAP 2

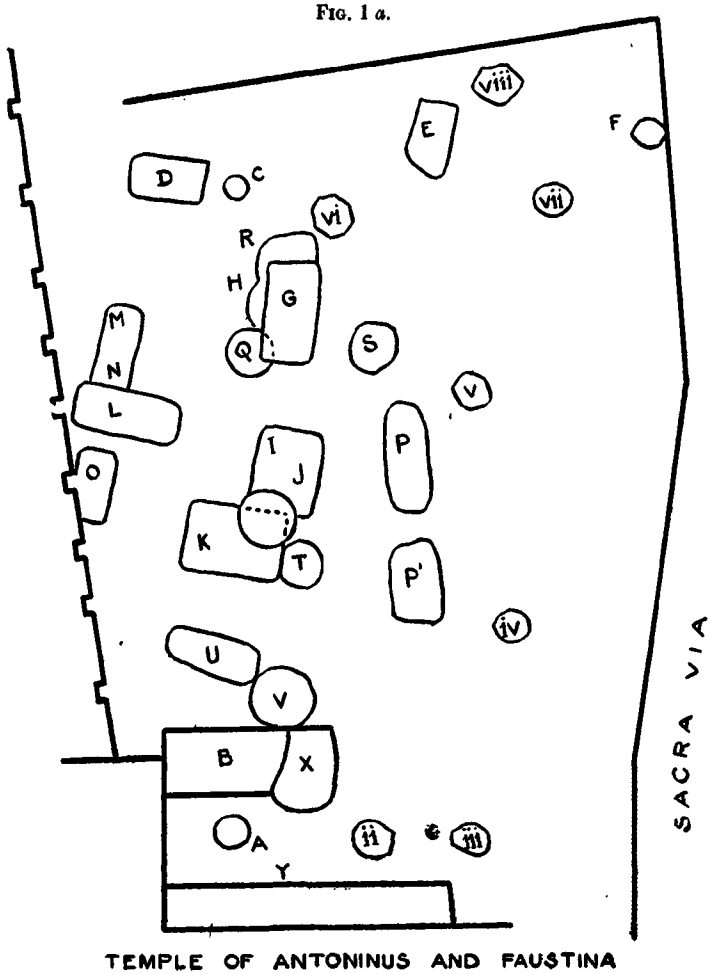
ITALY IN THE EARLY IRON AGE

We now approach the thorny question of the Etruscan race. The intrusion of a people whose language was non-Aryan, whose material civilization was in advance of that of the 'Italic' peoples, and whose relations with the Aegean were constant and intimate, is most naturally explained by the hypothesis of migration from the East; and a tradition as old as Herodotus lends support to this view. Moreover, an inscription has been found on the island of Lemnos, written in Greek character, but in a non-Hellenic language, which presents striking similarities with Etruscan; and Lemnos was amongst the sites said to have been occupied by the Τυρρηνοί, by which name the Etruscans were known to the Greeks. If the eastern origin of the Etruscans be admitted, it is practically certain that they landed on the west coast of Italy and founded their earliest settlements in Southern Etruria (Caere, Veii, &c.), where their earliest inscriptions are found, and afterwards crossed the Apennines and conquered a great part of the Po valley. The contrary view, that they came into Italy from the north, is based, not on ancient tradition, but on the existence of Etruscan place-names and inscriptions in the Alps: but these are explained by the Celtic invasions of the fifth and fourth centuries B.C., which drove part of the Etruscans northwards from the valley of the Po.

The date of the Etruscan invasion cannot be fixed, but it may well have been earlier and was certainly not later than the eighth century B.C. It is probable that the newcomers introduced the practice of inhumation, and that in the pit-graves (*tombe a pozzo*) which contain cremated remains we must see the tombs of the Umbrian population. They are followed by the trench-graves (*tombe a fossa*), in which the dead were laid, sometimes in a chest or sarcophagus; and ere long the rich were buried in chambers hewn in the rock (*tombe a camera*). In these sepulchres we find objects of Greek and Phoenician importation dating back to the seventh century B.C. In the following century the Etruscans were without doubt the leading people in Italy. They not only occupied Etruria and the valley of the Po, but were dominant in Latium and Campania. Tradition tells of Etruscan kings in Rome, and we shall find many traces of their influence on Roman civilization. The early burial-places discovered in Rome itself bear witness to the gradual change of custom which the coming of the Etruscans brought about in Northern and Central Italy. In the necropolis adjoining the Forum (Fig. 1 *a*; cf. p. 32), the cremation-graves (*tombe a pozzo*, Pl. IA, *c*) of the ninth and eighth centuries B.C., which resemble those of the Alban Hills, are followed by others of later date in which the dead are interred, sometimes in rude sarcophagi of tufa, sometimes in a hollow tree-trunk. The hand-made pottery of Italian fabric, made of unsifted clay mixed with grit (*impasto Italico*), gives place to wheel-made vases of finer clay (*bucchero*), and beside these latter we find Greek manufactures. The later phases are best represented in the cemeteries of the Esquiline (see below, p. 32), where the *tomba a camera* with its more luxurious

furniture is found. We are thus brought to the threshold of history proper; for the primitive Latin inscription found in the Comitium (see below, p. 99) is at least as early.

FIG. 1 *a*.



TEMPLE OF ANTONINUS AND FAUSTINA

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PAULY-WISSOWA, s.v. 'Etrusker' (Körte and Skutsch).

§ 2. Development of the Town and Land System.

We saw that the earliest settlements of the Italic race—the *terremare*—were laid out on a symmetrical plan, bearing witness to the constructive and orderly genius of the people which was to carry the city-state to the height of its development. In the Iron Age, the sites of habitation were no longer chosen in plain or river-valley, where the system of defence by moat and palisade was practicable, but on isolated hills, which, where not protected by natural escarpments, were strengthened by heaped ramparts of earth and stones. Such settlements are found in Latium, both at Ardea and at Antemnae; and tradition tells of a *vallum* as the earliest defence of the Palatine settlement (Victor, *de viris ill.* 1) and of a *terreus murus* on the Carinae (Varro, *L.L.* v. 143). But the territory of the Falisci, who of all Italian peoples were the most nearly related to the Latins, presents the best and most numerous examples. For these fortified villages walled towns seem to have been substituted between the eighth and the sixth century B.C. We can trace a gradual shifting of population from the hill-tops to less isolated and more accessible sites at a lower level, together with the beginnings of regular constructions in squared or polygonal blocks of masonry. In the Apennines and in Southern Italy there was less disposition to quit the higher sites, which were fortified after the new system; but in Etruria and Latium the inhabitants, anxious to profit by intercourse with Greek or Phoenician traders and colonists, no longer clung to the hills. It has been thought possible to determine the relative, if not the absolute antiquity of the walled towns of Central Italy by the style of masonry employed. It is natural to suppose that the ruder method of building with unhewn stone is earlier than the regular use of squared blocks—the *opus quadratum* of the Romans. Undoubtedly the so-called 'Cyclopean' masonry, consisting in rough unhewn blocks irregularly piled, whose interstices are filled with small stones, is earlier, not merely than coursed masonry, but also than the 'polygonal' style, in which walls are built of smoothed and carefully jointed blocks of irregular shape; but there is no ground for assigning it to the Mycenaean age, nor for giving to it the name 'Pelasgian' on the strength of the legends which attest the presence of Pelasgi in early Italy. It is not even true that 'polygonal' work is *in general* to be regarded as earlier than coursed masonry. No doubt the regular *opus quadratum*, such as we see in historical Rome, was preceded by such work as we find in the walls of Etruscan towns, for example, Volaterrae, where the blocks are roughly squared and laid in courses not perfectly horizontal: but these walls, to which we cannot assign an earlier date than about 600 B.C.,[1] seem to be older than the 'polygonal' fortifications of

[1] This is proved by the fact that interments of the seventh century B.C. have been found within the walls.

Norba, which may be dated to about 500 B.C.;[1] and the polygonal style was employed for substructures, such as those of the Via Appia near Aricia, and again between Fundi and Formiae in much later times—indeed, we find it thus used by the builders of villas in the Imperial period. It seems clear that the method of construction depends in part on the nature of the material available. In the districts where soft volcanic rock (tufa) was abundant, such as the Roman Campagna, squared masonry is generally found; polygonal work, on the other hand, is common in limestone regions such as the Sabine and Volscian hills.[2] That the city-builders of Central Italy learnt much from intercourse with Greek traders and colonists is undoubted; but we have no right to assert that the Etruscans brought with them from the East a system of architecture learnt from Mycenaean builders. It is true that ancient etymologists explained their name (Τυρσηνοί) as 'tower-builders'; and Varro,[3] Verrius Flaccus,[4] and Livy[5] agree in assigning an Etruscan origin to the ceremonial observed in the founding of cities; but it is by no means certain that they were right. The ritual in question is described as follows by ancient writers. The site of the future city was first 'inaugurated', i.e. the augur, after taking the usual omens, consecrated a *templum* or foursquare space standing at the central point. The founder of the city then marked out the limits of the *templum* by tracing a furrow (*urvus*) with a bronze ploughshare drawn by a white bull and heifer, the latter on the inside. Where a gateway was to be built, the ploughshare was lifted and the furrow thus interrupted. Varro tells us that the furrow was called *fossa*, and the earth thrown up (which was made to fall inwards) *murus*, in order that the new settlement might possess its wall and moat from the moment of its foundation. He goes on to say that the circuit thus traced *quod erat post murum pomerium dictum*, and that it formed the limit of the *auspicia urbana*. It was long held that the *pomerium* was a strip of ground just inside the city wall which was kept clear of buildings; but it seems clear that it embraced an ideal space enclosing the actual city, the line of whose fortifications was naturally conditioned by the features of the site. Thus Livy points out that though etymologists interpret the word in a literal sense as *postmerium*, it was so called *non magis quod post murum esset quam quod murus post id*; and the line of *cippi* or boundary-stones by which the earliest *pomerium* of Rome was determined ran, as Tacitus[6] tells us, *along*

[1] See the report of Savignoni and Mengarelli's excavations in *Notizie degli Scavi*, 1904, p. 407 ff. It is held by Frothingham, however, that the polygonal walls of Norba are earlier than the Roman colony (traditionally dated 492 B.C.).

[2] Even in this district, however, it seems to have gone out of fashion as Roman influence prevailed; thus the walls of Anagnia (Anagni), a town of the Hernici which was apparently fortified at the time of the war with Pyrrhus, are built of travertine, but in *opus quadratum*.

[3] *L. L.* v. 143.

[4] Fest. s.v. *rituales*.

[5] i. 44.

[6] *Ann.* xii. 24.

the foot of the Palatine, whereas the walls of the city naturally followed the crest of the hill.

The spot occupied by the augur in consecrating the site formed the intersection of the two main highways traversing the city, the *kardo* running from north to south, and the *decumanus* crossing it from east to west, while the rest of the site was mapped out in rectangular blocks. This practice was regularly followed in historical times in the foundation of Roman colonies, and was thus carried into all parts of the Empire. The science of augury (see chap. IV, § 1) formed no part of the *Etrusca disciplina*, but was common to the Italic peoples; and if the remains of the Etruscan city which have been brought to light at Marzabotto, on the north-east slope of the Apennines, display the same regular plan, it must be remembered that we also find it in the *terremare*. There was much room for variety in the details of Roman town-planning; blocks of 240 × 240 feet are found at Turin, where the chess-board pattern of the modern town is derived from that of the *Colonia Augusta Taurinorum*; we shall see that at Orange (Arausio) the blocks may have been rectangles one-half as large as these; and much smaller areas are found at Timgad (see below).[1]

It is, however, impossible to treat Roman town-planning apart from the highly specialized system on which the Romans surveyed and parcelled out land which was dealt with by the State as its property. This system was, no doubt, of gradual growth and partial application: its traces are visible (as will be shown) in Italy, Africa, and Southern Gaul; but even in Italy it never effaced earlier systems of division. Of these there is little to be said except that they left some trace of themselves in the institution of the *pagus*, which survived in Italy until the latest times. We can only define the *pagus* by saying that it was a primitive division of the land in Italy, whose inhabitants were united by social and religious ties, and possessed a corporate organization. The *pagus* often had its temple, priests, and *flamines*, and always its festivals, such as the *lustratio pagi*, or 'purification of the *pagus*', which took place when the annual sowing of the crops was completed. It even had its code of law. Pliny tells us (*H. N.* xxviii. 28) that in many parts of Italy women were forbidden by the *lex pagana* to carry distaffs in the open air, since they exerted a sinister influence on the crops! The chief official of the *pagus* was the *magister*, and *aediles* are also mentioned. The antiquity of these divisions is proved by the fact that in historical times we find *pagi* which lie partly in the territory of one *municipium* and partly in that of another.[2] No inferences can be drawn as to the *pagus* in

[1] Some Augustan colonies correspond fairly closely with the measurements of the camp as given by Hyginus; thus the longer sides of the rectangles of Turin and Aosta measure 2,440 feet (cp. p. 229).

[2] Thus the Alimentary Table (cf. p. 314 of Veleia mentions the *pagus Farraticanens* in the territory of Placentia; but the same *pagus* lay partly within that of Cremona (*C.I.L.* v. 4148).

Italy from provincial analogies, for the term was applied by the Romans to native institutions in the west on the ground of general resemblance. Thus in Gaul the name is given by Caesar to the subdivisions of the great Gallic cantons (*civitates*); under the empire these clans came to occupy a definite territory, and their affairs were administered by *praefecti* and *aediles*, so that they ultimately developed into centres of urban life: but these have nothing in common with the Italic *pagi*, except that they were in origin rural and not urban districts. Nor is it possible to establish a primitive connexion between the *pagi* of the *ager Romanus* and the Roman tribes. Only two instances can be cited in which a tribe borrowed its name from a *pagus*—the *tribus Sucusana* (cf. p. 34), which was called after the *pagus Sucusanus* (on the Caelian?), and the *tribus Lemonia*, whose name is derived by Festus from the *pagus Lemonius* outside the *porta Capena*.

The Roman system of land-surveying is described in a series of treatises differing both in date and in value, the authors of which are collectively known as *Agrimensores* or *gromatici* (from *groma*, see below). For the technical details of mensuration these writers were almost entirely dependent on Heron of Alexandria, whose work was probably known to them only through the medium of a Latin translation; and much of their work consists in the repetition of office traditions. Nevertheless, we should know little of Roman land-surveying were it not for the preservation of their writings.[1] The process of *limitatio*, or division of land into lots, is described as follows. The surveyor sets up an instrument known as the *groma*, which is represented on the tombstone of a certain Aebutius, preserved in the Museo Civico at Ivrea (Fig. 2 *a*): portions of such an instrument (in iron) have been found near Pfünz on the German *limes* (p. 245). The *groma* consisted in an iron rod (*ferramentum*), to the upper end of which was attached a pair of rods forming a cross (*stella*), from the extremities of which (*cornicula*) plummets (*pondera*) were suspended by lines (*nerviae, fila, perpendiculi*).[2] From the fact that in the example from the *limes* the arms were bent at the extremities and pierced with nails, it would seem that the *stella* was enclosed in a wooden framework. Observations were taken from each plummet to that nearest to it, and thus when the lines were precisely adjusted, right angles were obtained. By this means a base-line (*decumanus*) running from west to east, and a meridian (*kardo*) were laid down. The surveyor faced eastwards, and the *kardo* divided the *regio antica* or *citrata*, which was in front of him, from the *regio postica* or *ultrata*, which was behind him, while the *decumanus* separated the *regio*

[1] The most important of these writers is Frontinus, whose work on the aqueducts of Rome is described in chap. ii, § 9. They range in date from the first to the sixth century A. D.

[2] On the tombstone of Aebutius the *ferramentum* appears in the background with the *stella* in front, since the instrument, when set up for use, would have been difficult to represent in perspective.

sinistrata on his left from the *regio dextrata* on his right. *Kardo* and *decumanus* were represented by roads, the former 20 feet,

FIG. 2. (*a*) Tombstone of Aebutius, showing the *groma*. (*b*) Inscription on boundary-stone. (*c*) *Limes Gracchanus*.

and the latter 40 feet in width. The land was then mapped out in square lots called *centuriae*, the sides of which normally measured 2,400 Roman feet. The term *centuria* is explained as follows:

The unit of measurement was the ten-foot rod (*decempeda*, *pertica*), and twelve such rods made an *actus* of 120 feet, which was taken to be the normal furrow ploughed by a yoke of oxen. The *actus* was also a square measure, and two square *actus* (i.e. a rectangle of 240 × 120 feet) formed a *iugerum*—the day's ploughing,

Two *iugera*, again, made up the *heredium* which was supposed to have been the original allotment of land made by Romulus to the first citizens of Rome ; and the *centuria* was the equivalent of an hundred *heredia*. Such, at least, was the theory of the Imperial surveyors, who regarded the *centuria Caesariana* of the colonies framed on the model furnished by the Lex Iulia Agraria of 59 B.C. as conforming to the normal standard.[1] It is to be noted, however, that Varro held the term *centuria* to have been originally applied to lots of *one* hundred *iugera*, whilst in actual practice the *centuria* varied within wide limits. The colonies of the triumvirs in Italy, we are told, were mapped out in *centuriae*, either of 50 or of 200 *iugera*, even (at Cremona) of 210 *iugera*, and Augustus employed *centuriae* of 400 *iugera* in planning the colony of Emerita (Merida in Spain). It is clear, therefore, that in some cases the *centuria* was rectangular, not square, in form.

The land being thus mapped out by the process of *centuriatio*, roads and boundaries were next traced (*limites*, hence the process is called *limitatio*). The main roads were, of course, the *decumanus maximus* and *kardo maximus*, the former of which, in the colonies of Augustus, measured 40 feet and the latter 20 feet in width. Parallel with these were drawn other *kardines* and *decumani*[2] bounding the *centuriae*, and every fifth of these (*limes quintarius*) was an occupation road fixed by Augustus at 12 feet in breadth. The remainder were merely balks or lines of demarcation, though often converted by the occupiers into rough tracks (*subruncivi*) 8 feet broad. The system enabled each *centuria* to be identified by the numbers of the *limites* which bounded it, since the *kardines* and *decumani* were numbered, and were also distinguished by the regions mentioned above (*sinistrata* and *dextrata* in relation to the *decumanis*, *ultrata* and *citrata* in relation to the *kardo*). Thus the *centuriae* immediately adjoining the central point of the *ager limitatus* were described as :

(a) *sinistra decumanum primum, ultra kardinem primum* (SDIVKI).
(b) *dextra decumanum primum, ultra kardinem primum* (DDIVKI)
(c) *dextra decumanum primum, citra kardinem primum* (DDICKI)
(d) *sinistra decumanum primum, citra kardinem primum* (SDICKI)

This system of land-measurement has left its traces in various parts of the Roman world. The fertile lands of the basin of the Po were parcelled out, after the Punic Wars, in a series of colonies studding the line of the *Via Aemilia* (p. 42) which served as their *decumanus maximus* ; and the traces of the *centuriatio* are observable at the present day in the districts of Parma and Bologna, as

[1] Varro (*L. L.* v. 35) speaks of an original *centuria* of 100 *iugera*, which retained its name, though doubled in size ; but he is probably wrong. 100 *iugera* do not form a square measure, and the *centuria* represents in theory the 'lots' of 100 households, i. e. the *curia*.

[2] The name *decumanus* is probably derived from the interval of 10 *actus* between each *limes*.

well as at Padua, to the north of the Po. The *centuriae* are represented by square fields, the sides of which approximate to 2,400 Roman feet, or 20 *actus*. Even the name Desmano appears to preserve the ancient *decumanus*. In Campania, where the ancient divisions are likewise traceable, some examples of the boundary-stones (*termini*), which marked the angles of the *centuriae*, have been discovered. On Fig. 2 are figured two examples. On one stone (*b*) the indications S.D.I., K.K.XI. may be read, and the *decumanus primus* may be identified with the modern road passing through Sta Maria di Capua Vetere. The other (Fig. 2 *c*) is of greater interest, since it is a monument of the *adsignationes* carried out in pursuance of the *Lex agraria* passed by Tiberius Gracchus in 133 B.C. The inscription, which is only partly shown in the cut, runs as follows:

C. Sempronius Ti. f.
Ap. Claudius C. f.
P. Licinius P. f.
iii vir. a. i. a.[1]

Beside the names of the *tresviri* we read K VII (*kardo septimus*), and the direction of the *decumanus* is given by the D which terminates one arm of the cross engraved on the flat surface. The title of the land commissioners is *tresviri agris iudicandis adsignandis*; it will be remembered that the judicial functions of the board were transferred to the consuls in 129 B. C. P. Licinius Crassus became a member of the commission after the death of Tiberius Gracchus.

Traces of the *centuriatio* are not lacking outside Italy. The efforts which have been made to discover them in Britain have hitherto failed; and in Germany but a single doubtful instance has been pointed out. But it will presently be seen that at Arausio (Orange) in Southern Gaul, the system was applied, and clear traces of it have been observed at Carthage and other North African sites studied by Schulten (see bibliography). A very remarkable example of *centuriatio* on a large scale is furnished by the series of inscriptions discovered in the southern portion of the Roman province of Africa, not far from the Shott-el-Fedjedj. They refer to a process of *limitatio* carried out by the *Legio tertia Augusta* in A.D. 29–30. A typical example runs as follows:

Leg. III Aug.
limitavit
C. Vibio Marso proc. III
D. D. LXX
V. K. CCLXXX.

It seems that this formula was employed to mark the *limites quintarii*; in other positions we find stones bearing merely the

[1] We also find *termini* engraved with the names of M. Fulvius Flaccus, C. Sempronius Gracchus, and C. Papirius Carbo, and others restored by M. Terentius Varro Lucullus, who was consul in 73 B.C.

reference numbers of *decumani* and *kardines*, or (at times) the symbol 7 or 4 (=*centuria*) followed by a number. The *centuriae* appear to have been oblong in shape and to have measured 20 × 17½ *actus* (i. e. the sides were in the proportion 8 : 7). The *decumanus maximus* was inclined at an angle of 30° to the equator, and may have been determined by the observation of the sun's rising at the summer solstice at Capsa (Gabes). The intersection of the *kardo maximus* with the *decumanus maximus* must have taken place at a point in the desert, considerably to the south of the Shotts, and it is hard to see why it was so chosen. The *kardo maximus*, if prolonged, would strike the Mediterranean at a point not far from the boundary of Numidia and Mauretania. In its southerly portion it is said to coincide with a modern caravan route.

Beside *centuriatio*, the *gromatici* mention a mode of division of land which they term *per scamna et strigas*. In this system the rectangular plots into which the territory was mapped out were disposed, not in a chess-board pattern, but perpendicularly to each other, thus:

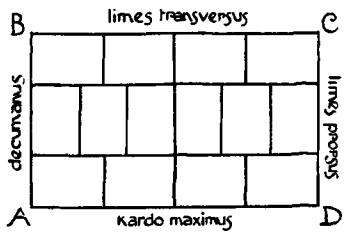


FIG. 3. *Divisio per scamna et strigas.*

The divisions whose length was parallel to the *kardo* were called *scamna*, and those which ran parallel to the *decumanus* were termed *strigae*. This cannot be traced in existing remains, but it is of some importance, as will be seen, in the planning of camps.

The *gromatici* also speak of the *saltus* as a unit including a number of *centuriae*—twenty-five according to Siculus Flaccus: Varro, however, applies the term to a square formed by four *centuriae* in land assigned in lots. We shall see that the word obtained a more general signification.

When the territory of a town was mapped out, the results of the survey were embodied in an official map or *forma*, made of canvas or bronze, often mentioned by the *gromatici*. The tract of the so-called Hyginus junior *de limitibus constituendis* contains several sketches which, in spite of all their roughness and inaccuracy, seem to have been derived—whether immediately or not—from genuine documents. We select that which represents the colony of Anxur (Terracina), and illustrates the statement made in 'Hyginus' that the *decumanus maximus* of the colony was

formed by the Via Appia (Fig. 4). The original *forma*, as the same author tells us, indicated the various titles by which the lands comprised in the territory of the town were held (*lata, adsignata, concessa*, &c.); but it could scarcely have given this information in minute detail, and was therefore supplemented by the *libri aeris*, a collection of *tabulae* in which the territory was described, century by century, with the names of each owner of land and the character of his holding (whether arable, vineyard, pasture, or plantation).

We hear of a certain Balbus, who published a collection of *formae civitatium* derived from the survey of Augustus,[1] and it is not unreasonable to suppose that the sketches found in the MSS. of 'Hyginus' are ultimately derived from this collection.

Such a *forma civitatis* or town-survey is represented by the fragments of an inscription discovered at Orange, the ancient Arausio, one of which is here figured (Fig. 5). We are not here dealing with the original *forma*, drawn up when the colony of

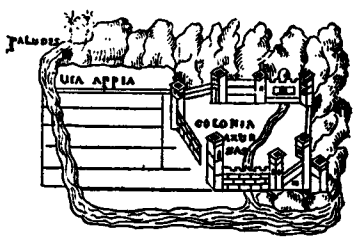


FIG. 4. Sketch-plan of Anxur (Terracina) from the tract of 'Hyginus'.

Arausio was founded by Julius Caesar, but with a document of later date drawn up for revenue purposes, perhaps in connexion with the census of Gaul carried out by order of Augustus in the years 27–13 B. C. The inscription, so far as it is preserved, enumerates certain lots, called by the name *merides*, a Greek term which may have been borrowed from the neighbouring Massilia. The frontage only is given, from which we may infer that the depth was uniform, in short, that we have to do with a single block; and as four of the six lots have a total frontage of 200 feet ($34\frac{1}{2} \times 35 \times 55\frac{1}{2} \times 75$), it is a probable conjecture that the total length was originally 240 feet and the depth 120 feet, i.e. that the block measured exactly one *iugerum*. Moreover, the block lay within the town of Arausio; for it abutted on the *kardo*, as is shown by the note *ad k(ardinem)* repeated twice, and one of its extremities adjoined a *ludus*, perhaps a barrack for gladiators. The text of the inscription and a figure (Fig. 6) which explains the significance of the measurements are subjoined:

[1] The contents of the treatise preserved under the name *Balbi ad Celsum expositio et ratio omnium formarum* do not correspond with the title.

[*Meris I . . . .* (lost)
et meris II . ..]
Ma(nceps) C. Naevius Rusticus
in perpet(uum), eius rei fide
iussor C. Vesidius Qua
dratus Ad K(ardinem)
Meris III in fronte p(e les) XXXIV –X LXIXS
s. et meris IIII in front(e)
p(edes) XXXV in ann(os) sing(ulos) XI
Manc(eps) C. Naevius Rusticus
in perpet(uum) eius rei fide
iussor C. Vesidius Quadra
tus Ad K(ardinem).
Meris V in fronte p(edes) LVS –X C[*XXXS*]
et meris VI ad ludum
in fronte p(edes) LXXV . . . . .
(rest lost.)

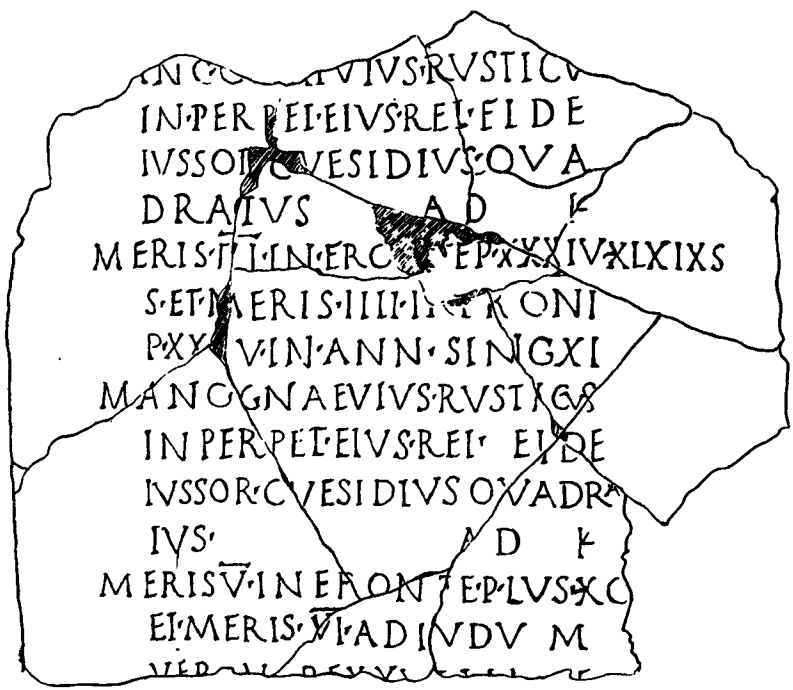


FIG. 5. Fragment of town-survey of Arausio.

In considering the gradual extension of the Roman town-system, a broad distinction must be drawn between towns of Roman foundation (*coloniae*) and those which, by a gradual extension of privileges, were absorbed into the ruling community (*municipia*). In the days

of the Republic the latter class, in virtue of the independent sovereignty which they had at one time enjoyed, were treated as superior in rank: but under the Empire, when the title of *colonia* was bestowed on the foundations of the emperors, or given as an honorary title to cities which enjoyed a special measure of Imperial favour, the relative dignity of *municipia* and *coloniae* was reversed, and Hadrian was obliged to recall to the inhabitants of his native city, Italica, which petitioned for the rank of *colonia*, the true significance of the name *municipium*. The gradual growth of the colonial system falls into certain well-defined periods. Setting aside the half-mythical foundations of the Early Latin league, we distinguish,

(*a*) the colonies, whether of Roman citizens (*coloniae civium Romanorum*) or of 'Latins', i.e. settlers whose civic status was assimilated to that enjoyed by the members of the Latin league, formed during the expansion of Republican

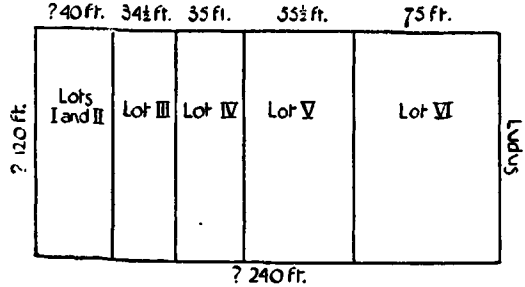


FIG. 6. Plan of town-block at Arausio.

Rome; the first-named were, as a rule, planted on the sea-coast, the latter class on the chief land-routes, but the function of both was the same, viz. to serve as visible tokens of the extension of the Roman community, to form centres of Roman life and manners in newly acquired territories, and, above all, to act as strongholds and garrisons, *praesidia ac propugnacula imperii* (Cic. *Leg. Agr.* ii. 73);

(*b*) the foundations of the Gracchi and their successors in the leadership of the popular party, down to and including Julius Caesar and the triumvirs, whose aim was to make provision for the urban proletariate: Caius Gracchus was the first to found such colonies outside the bounds of Italy, and the idea was turned to account by the Dictator Julius, from whose foundation of Urso (*Colonia Iulia Genetiva*) in Southern Spain comes the charter which gives us most help in realizing the constitution of such communities;

(*c*) the settlements of veterans founded by the great military leaders, from Marius to the triumvirs, often at the expense of existing communities, in order to provide for the 'military

proletariate' created by the wars, foreign and civil, of the expiring Republic: these lead naturally to

(*d*) the military colonies of the Empire, rendered necessary by the creation of a large standing army, but in time replaced by individual grants of money and land on discharge.

Beside these types, all of which were due to the actual establishment of bodies of settlers on lands parcelled out according to the system described above, we find

(*e*) the towns of non-Roman origin which received Roman civic rights (in varying degrees of completeness) together with the title of *colonia* or *municipium*; this policy was inaugurated after the Social War by the grant of Latin right to the communities of Cisalpine Gaul, and was consistently pursued by the emperors, who thus fostered the growth of town-life in the western provinces, when the city-state was not indigenous. Such towns might either be due to the crystallization of the life of a tribe in a single centre, as in the case of the Gallic cantons, or might spring up where a Roman military encampment formed the nucleus round which a settlement of traders with their booths (*canabae*) gathered, as on the Rhine and Danube frontiers.

The hand of nature has preserved in Pompeii a picture of the urban civilization of Italy as unified by Roman rule. The remains of the city, as they stand, present at first sight an appearance of freshness and a homogeneous aspect which suggest a newly-made town. The reason of this is that in A.D. 63, sixteen years before the final catastrophe, a violent shock of earthquake—doubtless a sign of the reawakening of volcanic activity—destroyed many public and private buildings, which had for the most part been renewed when the eruption of August 24-6, A.D. 79, took place. Nevertheless, enough remains of the earlier structures to enable us in some degree to trace the growth of the town. We cannot, indeed, determine the date of its foundation; but we may be sure that a site which was at once easy of defence—it is formed by the end of an ancient stream of lava, rising in a hill of irregularly oval shape—and furnished a convenient port for the rich plain watered by the Sarnus (Sarno)[1] was inhabited in early times. The oldest building still extant on the site is a Doric temple of the sixth century B.C., which betrays the Greek influences to which the Oscan founders of Pompeii were subject; but this stands alone. Towards the close of the fifth century B.C. the Samnites overran Campania, and it was to them that Pompeii owed the massive walls which are still in great part preserved, although in A.D. 79 they had long ceased to be maintained in a defensible condition, and had actually been removed from the steeper portions of the slope as early as the second century B.C. The houses which have survived

[1] It should be remembered that in ancient times Pompeii lay much nearer to the sea than it does now.

Lindner

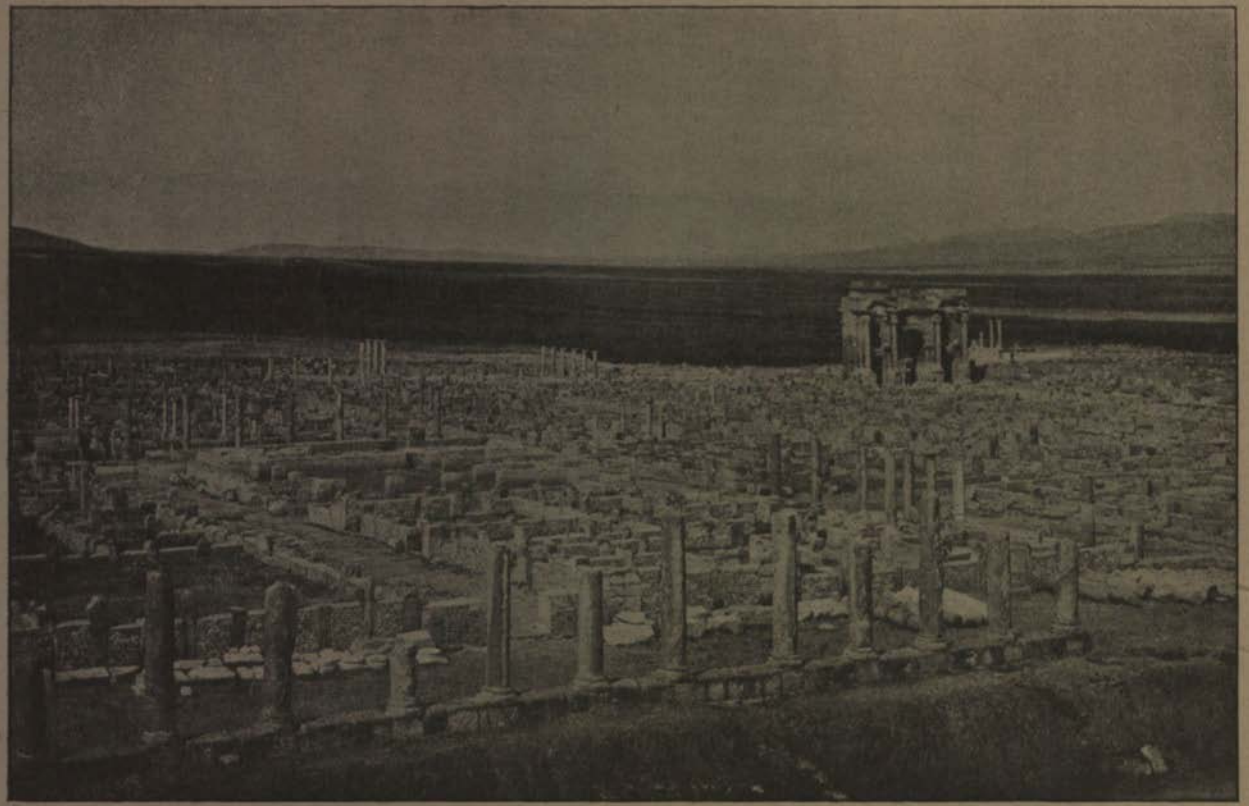
General view of the remains of Pompeii.

from the early Samnite period are easily recognized by the solid masonry of their façades, built of Sarno limestone. They are naturally few in number, and we are not to argue from this fact that the *enceinte* was at first but sparsely inhabited, nor that each house stood in a plot of cultivated ground. It is clear that the regular planning of the streets dates from this period; and we have no means of ascertaining to what extent the available space was occupied by buildings. An ancient column of singular shape—a modification of Tuscan Doric—built into the wall of a house, survives as a proof that the adornment of public places by porticoes was not unknown.

It was in the hundred years of peace which followed the Hannibalic War that Pompeii assumed the form and habit of a prosperous Italian country-town adorned after the fashion of second-century Hellenism. This has been named the Tufa period, from the grey volcanic stone in which its buildings were reared, and its monuments are easily recognized by the simplicity and elegance of their architectural style. The Forum was surrounded with colonnades, and beside it rose two temples and a basilica; a theatre was built at the opening of the period, and once, if not twice, enlarged before its close. The palaestra bears witness to the taste for Greek athletics, and the baths to the growing refinement of Italian manners. We see the same process at work which transformed the aspect of Rome in the last century and a half of the Republic (§ 3); but the culture of Pompeii is more frankly Hellenistic than that of the capital.

Pompeii seems to have passed almost unscathed through the fires of the Social and Civil Wars, and entered upon a fresh phase in its history as a Roman *colonia* (80 B.C.); but the buildings which mark the commencement of the new era—the smaller theatre, the amphitheatre, and a second suite of baths—show a marked decline in taste, and clear evidences of hasty construction. The temple of Jupiter was, no doubt, transformed into a *capitolium* (chap. II, § 3) in token of the newly acquired privilege of the town.

The empire left its mark here as elsewhere. Shortly before 3 B.C. a small temple of Fortuna Augusta was erected in acknowledgement of the benefits which had accrued from the new régime: under Tiberius, a wealthy lady named Eumachia built the cloth exchange which adjoins the Forum and dedicated it to the 'Concordia Augusta' of the emperor and his mother Livia; the market, rebuilt about the middle of the first century A.D., contained a chapel for the worship of the Divine Claudius. The municipal offices, which had suffered severely from the earthquake of A.D. 63, were restored under the Flavians, but were not completed in A.D. 79; and, to crown the whole, a temple of Vespasian (still unfinished at the time of the city's destruction) took its place hard by the shrine of Capitoline Jupiter. Such was the city whose remains preserve the most faithful picture which we possess of the life of ancient Italy; the general aspect of its ruins may be seen in Pl. II.



General view of the remains of Timgad.

If Pompeii represents the town-life of Italy under the Empire, the ruins of Timgad (which has not without reason been called the African Pompeii) picture to us the cities which sprang up at the *fiat* of the emperors in those Western lands which lacked the higher culture of the Hellenic East. The inscription which once adorned the triumphal arch at the entrance of the city[1] tells us that in the year A. D. 100—the third of his reign—Trajan founded the colony of Thamugadi 'by means of the third Augustan legion', which, as we shall see, formed the army of occupation in Roman Africa; and there is evidence that the principal public buildings were completed before the emperor's death in A. D. 117. The city thus created in less than a score of years enjoyed a flourishing existence for four centuries and a half, then, as we are told by Procopius, the mountaineers of the neighbouring Aurés destroyed the town in order to prevent the Byzantine Government from founding a settlement there which might threaten their independence. The Byzantines did, indeed, build a fortress and a church on the site; but the town as a whole ceased to be inhabited, and as the destruction wrought by the Berbers was only partial, and the Arabs who ousted the Byzantine garrison found nothing to plunder, the main outlines of the city have been recovered with ease by the French excavators: its general aspect is shown on Pl. III.

The city stands on the military road from Theveste to Lambaesis, which skirts the northern slope of the Aurés range. The dépôt of the Third Legion had been transferred by Trajan from Theveste to Lambaesis, and this change signified an extension of the area of civil occupation. Thamugadi, once the site of a native settlement, and perhaps also of a military post or a posting-station, was chosen to be the centre of Romanization in the district. The plan of the town was regular; it was intended that the north and south sides should measure 1,100, the east and west 1,200 Roman feet, but the actual measurements varied slightly from these figures. The *decumanus* was formed by the military highway from Theveste to Lambaesis, but was not directly intersected by the *kardo*, which is represented by two streets paved with blue limestone in place of the commoner sandstone, one leading directly to the Forum from the northern gateway, the other somewhat to the west. The four main entrances to the city were formed by monumental arches: that on the west has been restored, and bears the name of the 'Arch of Trajan', though it probably belongs to a somewhat later date (chap. II, § 4). Immediately within the walls was an open space about ten metres wide; the buildings were laid out in regular blocks, twelve in each side, approximately 70 Roman feet square, each of which normally contained two houses; the streets were on the average 15 Roman feet in width. Several blocks were set aside for the public buildings, which were all on the south side of the *decumanus*: the Forum, for example (see chap. II, § 4) occupied the site of eleven blocks. Immediately to the south of this was the

[1] *C. I. L.* viii. 2355.

theatre, and there were also two suites of public baths. The size of the houses—at least in the original colony—was notably smaller than at Pompeii; but the colonnaded streets gave the town a more imposing aspect (cf. Pls. II and III). This feature seems to have been borrowed from the Hellenistic East. Upon the slope of the hill which overlooked the city on the south-west rose the Capitol, which marked Thamugadi as a Roman colony (chap. II, § 3); and below this a wealthy citizen, M. Plotius Faustus, built a fine market in the first quarter of the third century A. D. By this time the walls by which the colony of Trajan was enclosed had been allowed to fall into decay, and their site was partly occupied by new houses, such as that of Plotius Faustus himself, which is almost as large as that of Pansa (chap. II, § 11) at Pompeii.

Timgad may serve as an example of the cities called into being by the authority of the Imperial Government: Silchester represents the Romanized town which took the place of a native settlement. Calleva—'the town in the wood'—was the chief town of the Atrebates, whose territory lay in Hampshire and Berkshire; in Roman times it was the meeting-place of important roads from the east, the west, the south, and the south-west (see § 4), and these no doubt followed the line of earlier trackways. The irregularly-shaped hill upon which it stands is surrounded by earthworks, which may be of Celtic origin; and the Roman walls, which date from the troublous times of the third or fourth century A. D.[1] (see chap. II, § 2) form an inner circuit. Within these lie the foundations of the Romano-British city, which have been systematically excavated since 1890. In its irregular outline it resembles other towns in Roman Britain, such as Viroconium (Wroxeter), which grew out of Celtic settlements, and is sharply distinguished from foundations such as the colony at Lindum (Lincoln) due to the Roman invaders. But its streets are laid out on the chess-board pattern, found wherever Roman surveyors were at work, and as none of them traverses the remains of pre-existing buildings, we may conclude that the plan of the town dates from its foundation as a Roman settlement, which from the evidence of coin-finds may be assigned to the period of the Flavian Emperors. At the intersection of the two main streets was the Forum, consisting in a courtyard about 150 feet square, with colonnades on three sides, and ranges of shops or public offices in rear of these. On the fourth—the western—side was the Basilica, a hall 240 feet long and 58 feet wide, divided into a central nave and narrow aisles by ranges of Corinthian columns, and terminated at either end by a semicircular apse (cp. p. 103). In the centre of the longer side was a large apsidal chamber, approached by three steps from the body of the hall, in which we may recognize the *curia* (see p. 99). On either side of this were public offices. Three

[1] An inscription of the early third century A.D. was found on the top of the wall, and seems to have been used in its construction. This use of earlier materials is characteristic of the walls built in the decline of the Empire (p. 72).

temples—one polygonal in outline, with a peristyle of sixteen columns—have been found within the walls, as well as a small Christian basilica near the Forum; and in the south-western part of the town was a suite of baths attached to a large building with a central courtyard and several rooms, some of which had hypocausts (p. 118). This seems to have been a place of public entertainment, and has been called by the name of *hospitium*. The amphitheatre—a rude structure of banked earth—was placed outside the eastern gate. Calleva had no history, and seems never to have enjoyed great prosperity. The space enclosed by the walls was at no time fully occupied, and probably contained not more than eighty well-built houses. The only industry of importance was that of dyeing. The town was not destroyed by the Saxon invaders, but sank into gradual decay, as is shown by the partial blocking up of its gates, and was at length abandoned by the Romanized provincials.

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3. DEVELOPMENT OF ROME.

The foundation of an Italic city has been described above (§ 2, p. 14). According to tradition, the site enclosed by the primitive *pomerium* of Rome was the Palatine Hill, an eminence roughly trapezoidal in outline, forming the natural centre of a group of heights, whether isolated, such as the Capitol and the Aventine, or projecting as promontories from an adjoining table-land, such as the Quirinal, Viminal, Esquiline, and Caelian (Map 3). These were known in later antiquity as the Seven Hills of Rome, though the circuit of the city embraced other heights, the Pincian (*Collis Hortorum*) on the north and the Lesser Aventine on the south, together with part of the slopes of the Janiculum on the west bank of the Tiber. It was the action of this powerful stream and its tributaries which had furrowed the volcanic table-land with deep inlets and isolated some of the projecting heights. Even in early historical times the intervening valleys such as the Velabrum, between Capitol, Palatine and Aventine, the Forum, and a considerable part of the Campus Martius, were swampy, ill-drained,

ANCIENT ROME.

and frequently flooded; and the Palatine was protected on three sides both by its walls of rock and by water, and was connected with the adjoining heights only by the saddle of the Velia, which has been compared with the single bridge of the *terremare*. It was thus fitted by nature to play the leading part amongst the hills of Rome. The lines of the original *templum* were still traceable in Imperial times, and Tacitus (*Ann.* xii. 24) describes the course of the *pomerium*, which, following the principle explained above (p. 14), ran along the foot of the hill (*per ima montis Palatini*). Two of the points by which the angles were determined—the *Ara Maxima* of Hercules and the *Ara Consi*—lay in the depression afterwards occupied by the Circus Maximus; the precise position of the others—the *Curiae veteres* and the *Sacellum Larum*—is unknown, but we must assume that they stood at the north and east corners of the hill. The earliest fortification of the Palatine consisted, according to a tradition preserved by Varro and Dionysius of Halicarnassus, in an *agger* of earth. Of such no trace remains. But in some places, notably at the western angle, there may be seen remains of early walls (v. *infra*, chap. II), by which the natural strength of the hill was greatly increased. About 40 feet from the summit a shelf was artificially cut, and above this the face of the rock was smoothed and slightly battered. On the shelf a wall was built with blocks of the tufa quarried on the Palatine itself, which was no doubt carried to a height sufficient to form a parapet following the edge of the hill. Its preservation is due to the fact that at a later time a second circuit-wall was built in the technique of the 'Servian' walls of Rome, about 2½ feet in front of the old fortification, while both of these were afterwards encased by the concrete substructures of Imperial buildings. This is illustrated by Fig. 7. The western angle of the Palatine likewise contains many remains of early construction in tufa, which it is, however, impossible to identify in detail with the sites hallowed by Roman tradition, such as the *Casa Romuli*, the *Tugurium Faustuli*, or the *Lupercal*. The Palatine is sometimes called *Roma quadrata* in later tradition, and the same name was applied to the *mundus* or pit in which the objects *quae solent boni ominis gratia in urbe condenda adhiberi* were contained. The exact site of this has not been determined, but it is generally sought in the Area Palatina (Map 6). The hill was originally divided into two almost equal parts by a depression afterwards filled by the substructures of the Imperial palaces, and the name Palatium applies properly to the southern height, while the northern eminence was called Cermalus. Both were included in the original *pomerium*, but the 'hill of Pales', a divinity in whose honour the festival of the Palatuar was celebrated in historical times, gave its name to the settlement. Varro and Pliny speak of three gates, of which two (Porta Mugonia, on the north-east side, and Porta Romanula, the 'river gate') are known to us by name.

This was, however, by no means the only settlement which

existed in early times within the circuit of the later Rome. The discovery of prehistoric cemeteries, both on the heights of the Esquiline and in the neighbourhood of the Forum (cf. p. 12, Fig. 1*a*) shows plainly that in the Early Iron Age a cluster of villages occupied the heights which encircle the Palatine, and the

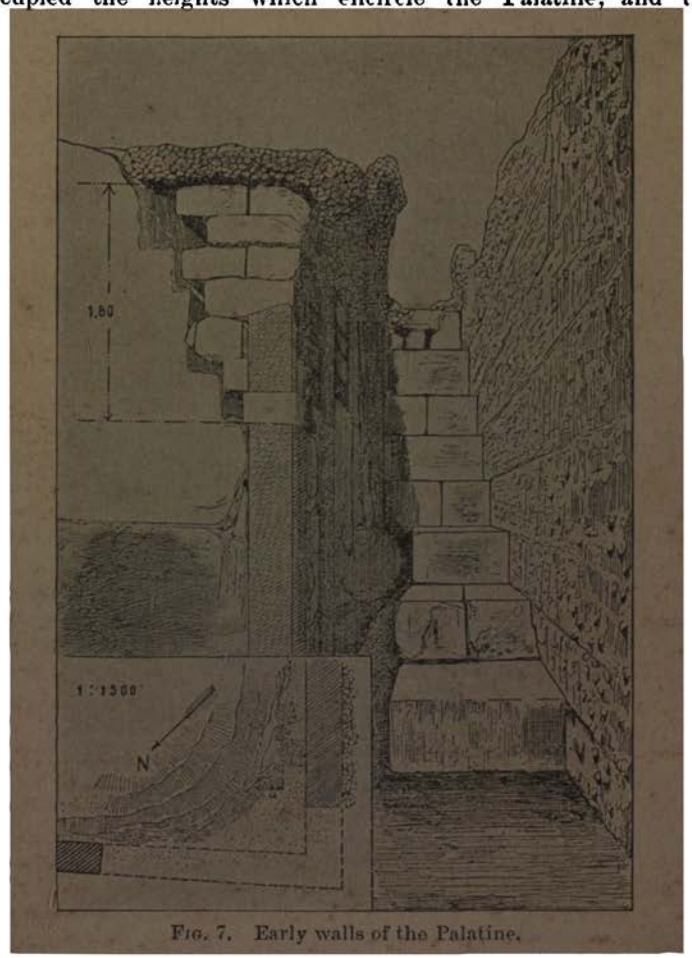


FIG. 7. Early walls of the Palatine.

memory of their independent existence was preserved by the festival of the Septimontium celebrated yearly on Dec. 11. The Seven Hills which the name implies were not those of later tradition, but a group of heights comprised within a much narrower space. The passage of Festus[1] from which we derive our knowledge of their names is corrupt, and has been variously emended: but it is most probable that they were the following:

[1] p. 348 b 24 Müller: cf. p. 340 a 7, p. 341.

(*a*) 1. Palatium. 2. Cermalus, the two heights of the Palatine.
(*b*) 3. Velia, the saddle uniting the Palatine to the Esquiline.
(*c*) 4. Cispius. 5. Oppius, the two spurs of the Esquiline, and 6. Fagutal, the western extremity of the latter.
(*d*) 7. Subura, or more properly Sucusa, not to be identified with the Subura of historical times, which was a valley, but with that part of the Caelian which approaches most nearly to the Palatine.

We are not to suppose that the communities which thus united in religious worship were as yet embraced within a single city, certainly not a fortified one, although Varro and other antiquarians speak of Septimontium as an ancient name of Rome.

Rome as a city sprang from the amalgamation of the Latin settlement on the Palatine (together with the outlying villages) and another, described as Sabine by a tradition, the accuracy of which there is no reason to doubt, whose site lay on the Quirinal and Viminal Hills, always known to the Romans as *colles*, in distinction from the *montes* occupied by the Latin settlers. Into the details of the legendary conflict between Romulus and Tatius it is needless to enter; it is sufficient to say that when Roman tradition represented the reconciled peoples as establishing a common market-place in the Forum with a place of assembly (*comitium*) at its north-eastern corner, and fortifying the Capitol as the citadel of the new community, it expressed the indubitable fact that the Rome of history is a Rome which includes both the Palatine and the Quirinal settlements. The centre of its life was the Forum, about which were grouped the sites and buildings associated with the seven kings—the Senate house of Tullus Hostilius, the prison of Ancus Marcius, the Regia and shrine of Vesta of Numa Pompilius; and other hallowed sites, such as the sanctuary of the Lares and Penates, stood by the 'Sacred Way' (leading from the northern gate of the Palatine to the Forum), beside which it was said that three of the seven kings had had their dwelling-place. The new city was naturally enclosed by a new *pomerium*, which remained the boundary of Rome in the religious sense until the time of Sulla.[1]

Roman tradition ascribed this extension of the *pomerium* to Servius Tullius, who was also said to have divided the city into four 'regions', and to have built the great wall of circumvallation described and illustrated in chap II, § 2. It is there shown that the technique of its construction is inconsistent with so early a date, and that it may be assigned to the fourth century B.C. and the period following the sack of Rome by the Gauls. Moreover, it includes much more than the city of the Four Regions—notably

[1] The view stated in the text is that commonly accepted; Carter has, however, recently argued that the primacy of the Palatine is a fiction, and that the first *urbs* with a *pomerium* was the 'city of the Four Regions', founded by the Etruscan kings of Rome according to their national rite. He agrees with modern critics in attributing the 'Servian' wall to the fourth century B.C.

the Aventine, which was never included in the *pomerium* until the reign of Claudius. The limits of the Four Regions—from which the Capitol was excluded, although it lay within the *pomerium*, so that we find the phrase *urbs et capitolium* in Caesar and Livy—can be approximately traced by means of a passage in Varro[1] which describes the procession which took place annually on May 15, when wicker figures called *Argei* (supposed to mean 'Greeks') were cast into the Tiber. The procession visited twenty-four chapels (*sacraria*) distributed throughout the four regions, the names of which were identical with those of the four city tribes—Sucusana,[2] Esquilina, Collina, and Palatina. The regions, and hence the *pomerium*, included more than the inhabited area, e.g. the 'Grove of the Esquiline' and 'Grove of the Fagutal', and we may be sure that the Etruscan kings provided Rome with defences of some sort, without which it could not have held its own with the powerful cities north of the Tiber. On this side the Janiculum was fortified as an outwork, and the river was crossed only by a 'bridge of piles' (*pons sublicius*, cf. p. 76) which could easily be broken down in case of need. Upon the Capitoline citadel rose the triple temple of the Etruscan deities worshipped by the Romans under the names of Jupiter, Juno, and Minerva as an enduring monument of the dynasty which gave Rome the elements of higher culture.

The Etruscan yoke was shaken off in 509 B.C., and the defences of Rome proved insufficient to save it from capture—all but the Capitoline citadel—by the Gallic invaders in 390 B.C., when its defenders staked their all on the issue of battle some nine miles from the gates, and saw their retreat cut off. The lack of walls was soon made good, and a vast area was secured by practically impregnable defences. Larger than any of the Etruscan cities, and surpassed only by the greatest of the Greek colonies in Sicily and Magna Graecia, Rome afforded ample room for the expansion of population which its favourable trading situation was not slow to bring about. Nevertheless, the inhabited quarters soon extended beyond the Servian *enceinte*. The main streets of republican Rome, as will be seen from the Plan, Map 3, converge first upon the Forum and then upon the narrow strip of low-lying land by the Tiber. Here was the centre of trade and industry, and here the population was densest. Soon the riverside district outside the Servian wall began to be covered with habitations, and while the meat-market (*Forum Boarium*) remained inside the walls, the vegetable-market (*Forum Holitorium*) was held without the gate. The Aventine, which was now embraced within the city walls, had been parcelled out amongst the *plebs* as early as 456 B.C. Of the districts remote from the Tiber, only the valley of the Subura, between the

[1] *L. L.* v. 45 ff. Varro speaks of twenty-seven *sacraria* in this passage, but the number is clearly corrupt.

[2] Later literary sources give the form *Suburana*; but in inscriptions the abbreviation SVC. is used. The same confusion was noticed above in the list of villages which formed the Septimontium.

Viminal and Esquiline Hills, and the Argiletum in which it was continued towards the Forum, were thickly populated. The Palatine and Velia, on the other hand, were the quarters of the ruling aristocracy.

Soon after the expulsion of the kings a fresh stream of influence had begun to make itself felt in Rome—that of the Greek settlers in Italy, which has left its traces in the new style of temple-building first found in the fifth century B.C.; it may be detected in the foundations of the temple of Apollo in the Campus Martius, which date from 431 B.C. After the Gallic catastrophe this influence continued to wax strong, and it was significant that towards the close of the fourth century B.C., Appius Claudius, the blind censor, who gave his name to the first of the Roman aqueducts, was also the builder of the first military highway, which connected Rome with the Greek cities of Campania. In architecture the fusion of the 'Tuscan' and Greek styles, hitherto sharply distinguished, was now accomplished; but Hellenic influences predominated. Of the buildings of the third century scarcely anything remains, unless it be the small Ionic temple in the Forum Boarium, now S. Maria Egiziaca (and this is disputed, cf. p. 86), and the foundations of two of those in the Forum Holitorium, built during the First Punic War or shortly afterwards, which may be seen in the crypt of S. Nicolà in Carcere. In the second century B.C. Rome was transformed, like Pompeii, into a Hellenistic city. The first *basilicae* with their colonnades flanked and relieved the overcrowded Forum. Monumental arches with statuary groups were set up, and the column found its way into private architecture, soon to be followed by the use of coloured marble for incrustation.

But if Rome thus began to vie with the great centres of the Hellenistic world (whose wealth it was rapidly draining) in the splendour of its public and private monuments, other transformations were taking place which were not all for the better. The populous quarters of the old city were broken up into *vici*—streets with adjoining lanes which could be shut off if need were by gates, and had their religious and social organizations. The decemviral code of 450 B.C. prescribed an interval of $2\frac{1}{2}$ feet (the *angiportus*) between each house and its neighbour. But in the rapid expansion of Rome which followed the catastrophe of 390 B.C., this became a dead letter. Space became increasingly valuable, and as Rome attracted to herself the world's capital, and became the centre of the world's speculation, a new city grew up, in which, beside the houses of the rich with their courts and colonnades, rose the towering blocks of tenements—*insulae*—in which the poor were massed. Often five or six stories in height, these buildings were separated by streets only 12 to 15 feet in width. Insecurely built of sun-dried bricks, and in their upper floors chiefly of wood, they were constantly threatened with collapse and conflagration, and must have been fully as insanitary and revolting as the worst slums of

Naples or New York. In the closing century of the Republic, the inhabited area overflowed the Servian wall in all directions; Rome ceased to be a fortified city, and its limits are defined in the Local Government Act of Caesar by the words *ubei continente habitatur*. In only two respects—water-supply and drainage—was any adequate provision made for its needs. Instead of providing thoroughfares for wheeled traffic, it was found simpler to forbid it during the daytime with rare exceptions.

We hear that Sulla 'enlarged the *pomerium*', but know nothing in detail of this measure; and some authorities (not the best) say the same of Julius Caesar. Cicero mentions his grandiose scheme for the diversion of the Tiber (the bed of which was regulated in 54 B.C.), so as to include what are now the Prati di Castello in the Campus Martius, in which public buildings were beginning to multiply.[1] His changes in the Forum and its neighbourhood are mentioned elsewhere. But he left his plans to be carried to completion by his successor.

Latericiam accepi, marmoream reliqui. The words convey to most minds the impression that Augustus left Rome ablaze with coloured marbles, and the colossal structures of the Empire give to ancient Rome its character for the modern visitor. He tells us that he rebuilt eighty-two temples; and his minister Agrippa gave the Romans their first Thermae (p. 119), added to the splendours of the Campus Martius, and built fresh aqueducts. It is more important, but less easy, to determine the improvement effected by the Empire in the general conditions of urban life. The Empire certainly gave Rome a better municipal administration, with a division into fourteen (*regiones*) subdivided into wards (*vici*), each of which had its centre in the shrine of the *Lares compitales*, under the supervision of *magistri*, and an efficient corps of police (*cohortes urbanae*) and firemen (*vigiles*), both of which had been sadly to seek in the closing years of the Republic. Augustus limited the height of new buildings to 70 feet, a rule which must often have been broken. But he does not seem to have attempted the wholesale destruction and reconstruction which alone could provide a fitting capital for his world-Empire. Nor did his immediate successors remedy this defect. Tiberius concentrated the household troops in his new Praetorian barracks on the Esquiline, and overawed Rome by the presence of a formidable garrison; Claudius 'enlarged the *pomerium*' by the inclusion of the Aventine and some strips of land elsewhere, and conferred a lasting benefit on the city by the building of his aqueducts. But it was left for Nero to make an epoch in the history of the city. Whether or no he was responsible for the great fire of A.D. 64—and it seems most probable that he was not—he certainly took advantage of it, partly to gratify his own craving for pomp and magnificence, partly

[1] Besides the Circus Flaminius (p. 138), there were the temples and porticoes built in the second century B.C. (p. 108), and the Theatre of Pompey (p. 124).

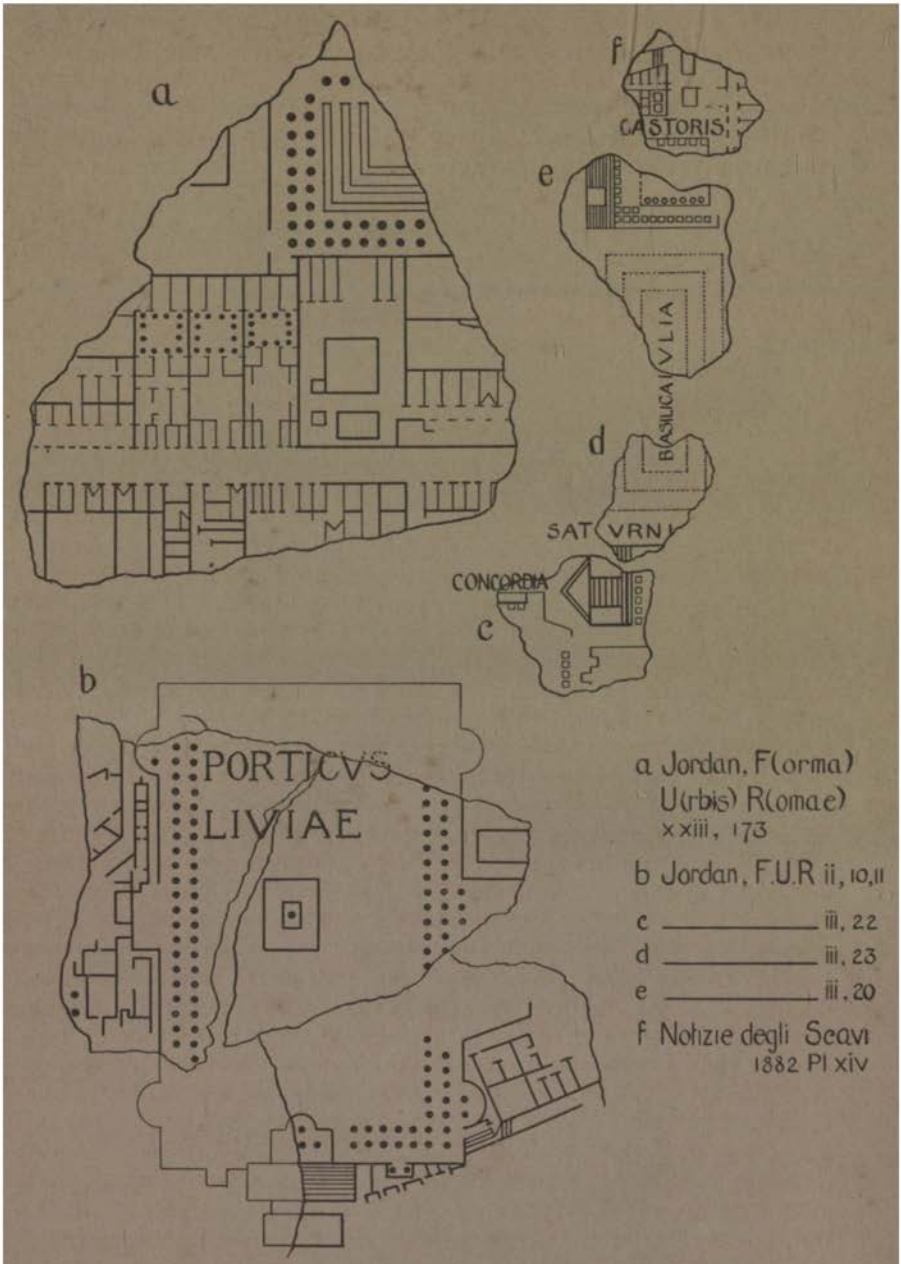
also to make Rome worthier of her destiny. The fire broke out on July 19 at the eastern end of the Circus Maximus; the flames were driven by a south-east wind (the modern *scirocco*) along the valley between Palatine and Aventine, and soon were beyond control. The conflagration raged for six days until it was checked by the wholesale clearance of houses at the base of the Esquiline; but there was a second outbreak (lasting for three days) which caused grave suspicion, since it began on the property of Nero's favourite Tigellinus in the southerly part of the Campus Martius. Tacitus tells us that of the fourteen 'regions' of Augustus (cf. Map 3) four only escaped; of these the fourteenth (Trastevere) was certainly one; the others were probably the first, which was protected by the wind, and the fifth and sixth, which were saved by the precautions mentioned above. Three regions—the eleventh (Circus Maximus), tenth (Palatine), and probably the third ('Isis and Serapis', i.e. the southern slopes of the Esquiline)—were gutted; the remainder, which embraced all the low-lying parts of Rome and the Caelian Hill, all suffered damage in varying degrees. Nero appropriated to his own use the greater part of the third region and the district between it and the Palatine, and built thereon his famous Golden House (p. 167); but at the same time he forbade the re-erection of the narrow, winding lanes of towering tenement-houses which the fire had swept away, and laid out broad streets flanked by colonnades, limited the height of private houses (probably to 60 feet), and ordered them to be provided with inner court-yards and built (in their lower stories) of Alban or Gabine stone (*peperino* and *sperone*, cf. p. 55). The rebuilding of the city was not, however, complete on his death, as we are expressly told by Suetonius; and the Flavian emperors, who were careful to restore the site of the Golden House to public uses (e.g. by the building of the Colosseum and the baths of Titus) once more 'enlarged the *pomerium*' and posed as the founders of a new Rome. This was the last extension of the *pomerium*; for that which is ascribed to Aurelian by his biographer seems to be a fiction. The *cippi*, or numbered boundary-stones by which its limits were marked (cf. Map 3—those which bear the name of Hadrian are merely restorations), indicate that though the Pincian was enclosed, the northern part of the Campus Martius still lay outside the pomerial city. Thus the *pomerium* never embraced the whole of the fourteen regions; but their boundary was taken as the customs barrier, where an *octroi* was levied (cf. the *cippi*, whose position is marked on Map 3). The building usually but wrongly called the *Templum Sacrae Urbis* (now SS. Cosma e Damiano), adjoining the 'Forum of Peace' built by Vespasian (see Map 5), was a registry containing the documents upon which the survey of the new Rome, assigned by Pliny the elder to the censorship of Vespasian and Titus (A.D. 73), was based: on its eastern wall was fixed a marble plan of the city. This was restored by Sept. Severus and Caracalla, and many fragments of

it were discovered in the sixteenth century and again in recent years, and have been arranged in the garden of the Palazzo dei Conservatori. The scale of the plan was 1 : 250, the orientation south-east–north-west; but neither was very accurately observed. Probably it was reduced in parts, in order that the whole of Rome might be represented on the wall. Some of the fragments are reproduced on Fig. 8.

Domitian built largely on the Palatine and also in the Campus Martius, and the series of Imperial Fora was completed by Trajan (cf. p. 102).

Nevertheless, the old evils of overcrowding and jerry-building must have crept in again, if we can trust the third Satire of Juvenal (imitated in Johnson's *London*); and the congestion of the poorer quarters was, it is to be feared, made worse by the emperors who expropriated large tracts of private property in order to build temples or places of public resort. The gardens and palaces of the rich occupied most of the higher and healthier ground—since the Palatine was appropriated by the emperors, the aristocracy had emigrated to the Caelian and Aventine, or laid out vast parks on the eastern heights, while a zone of villas and gardens several miles in width encircled the city, and the main lines of road were flanked by the imposing tombs of the wealthier families.

Amongst the emperors who followed Trajan, the most notable builders were Hadrian, to whom we owe the Pantheon (p. 92), the temple of Venus and Rome, and the Castle of St. Angelo (p. 190), and Septimius Severus, who found much to do in restoring Rome after a conflagration which devastated the Forum and adjoining regions in A.D. 191, and completed the Imperial residence on the Palatine. The Thermae of his son Caracalla (p. 119) were the most magnificent yet erected. The belt of parks which stretched across the eastern heights fell, for the most part, into the hands of the emperors by confiscation or bequest, and was covered with palaces; but Diocletian—the last restorer of Pagan Rome, which had again been visited with fire in A.D. 283—built the largest of the Imperial Thermae (those of Constantine on the Quirinal were smaller) on a site acquired by purchase, and cleared by the destruction of whole streets. In the meantime Rome had once more become a fortified city. Aurelian's wall (A.D. 271, cf. p. 72) was built because the weakness of Italy in face of the constant pressure of barbarian invaders had been demonstrated by the raids of the Alamanni and Juthungi into the valley of the Po; and it is significant that it included only a part of the fourteen regions of Augustus, four of which (the first, fifth, seventh, and fourteenth) extended beyond the fortifications. The prosperity of Rome had long passed its zenith, and the decline in its population was continuous. To estimate its numbers is hazardous, since the only fixed data which we possess are the statements as to the number of recipients of the corn-doles or Imperial bounties (*congiaria*),



FRAGMENTS OF THE MARBLE PLAN OF ROME

Fig. 8.

which do not even include the whole free population, while the proportion of slaves to the total is quite uncertain.[1] Estimates of the population under Augustus vary from 800,000 (Beloch) to 1,600,000 (Marquardt). Even Beloch's estimate gives a density of population (260 to the acre) which would now be considered enormous. Nissen reckons that the *canon frumentarius populi Romani*—i. e. the estimated yearly corn-consumption of Rome—stated to have been 27,375,000 *modii* (the *modius* = nearly a peck) in the time of Septimius Severus, was only about one-half of the supply needed in the time of Augustus; this, however, allows a consumption of sixty *modii* per head per annum, and Beloch believes thirty-six *modii* to be the correct figure. In Theodoric's time, 120,000 *modii* sufficed for the yearly consumption; but Rome had then ceased for two centuries to be the capital of the Empire, and had been sacked by the Goths of Alaric (A.D. 410) and the Vandals under Geiserich (A.D. 455).

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Further references will be found in these works.

§ 4. Roads and Sea-Routes.

The Roman road-system is justly entitled to its undying fame. Throughout a large part of the Empire (in the south and east) the ease and safety of communication secured by the construction of great highways far surpassed that which exists at the present time. It was not, however, primarily for the benefit of the peaceful traveller that the Roman roads were built. The purposes which they served were strategical and political; they were, as it were, the meshes of a net in which the subject-countries were held by the central government. Thus the parallel often drawn between Roman highways and modern railways is not altogether precise, although it applies exactly e. g. to certain routes in the Balkans which form the subject of political contention at the present time (cf. p. 44). It is impossible here to give more than a brief sketch of the historical development of the road-system and to trace the main arteries of circulation.

Little is known of pre-Roman routes in Italy. The 'salt-road' (Via Salaria) which ran north-eastward from Rome through the Sabine country and was in time continued over the Apennines to the Adriatic coast appears from a passage of Pliny (*N. H.* xxxi. 89) to have been the route by which the product of the salt-marshes at the mouth of the Tiber reached the Sabines. At what date it was

[1] 320,000 persons received a *congiarium* of 60 *denarii* under Augustus. Tacitus (*Ann.* iv. 27) speaks in terms, which are probably exaggerated, of the enormous number of slaves and the decline of the free population; Galen estimates the proportion of slaves to freemen *at Pergamum* at 1 : 2.

transformed into a Roman highway we know not; apparently it extended at first only as far as Reate, and was thence carried up the valley of the Avens (Velino)[1]; to Augustus (17–16 B. C.) was due the further extension which brought it down the valley of the Tronto to the Adriatic, which it reached at Truentum. On the other hand, the broad trackways by which cattle were driven from their summer pasturage in Samnium to winter quarters in the Apulian plain were never converted into military roads, and still fulfil their ancient function.

The growth of the Roman road-system proceeded simultaneously with the expansion of her territory. We cannot trace the beginnings of the local roads which connected Rome with the neighbouring towns[2]; but we may be sure that the wars waged by the Romans and their allies with the Aequi in the fifth and early fourth centuries B. C. led to the construction of the Via Latina across Mount Algidus, and that when Campania fell under Roman influence in the second half of the fourth century it was prolonged by the valleys of the Trerus (Sacco) and Liris to Cales and Capua.

In 312 B. C. this, the easiest and most natural route to the South, was supplemented by the first highway whose origin is preserved by Roman tradition—the 'queen of roads', as Statius calls it—namely, the Via Appia. This was the work of the blind censor, Appius Claudius, and strikes the note characteristic of Roman military roads by the directness of its course. From Rome to Terracina it proceeds in an almost mathematically straight line, climbing the slope of the Alban Hills by steep gradients, and leaving on one side the Volscian towns (Cora, Norba, &c.) in order to cut through the Pomptine marshes, where a canal by which passengers were usually conveyed (as in Horace's 'Journey to Brundisium') ran parallel with the road for nineteen Roman miles. At Terracina the promontory of Monte St. Angelo was cut back for a distance of 120 feet in order to give the road passage; but this remarkable piece of work is probably of Imperial date. At Casilinum the two routes which we have described met, and three miles further south reached Capua.

The Via Appia was first prolonged to Beneventum, probably about the time when that town received a Roman colony (268 B. C.), and thence in the course of the following century by Venusia and Tarentum to Brundisium. Strabo (writing under Augustus) describes this as the road used by wheeled traffic, while sumpter beasts followed the route from Beneventum to Brundisium by Canusium and the Apulian coast-plain. This latter route was made into a military road by Trajan, and bore his name (Via Trajana);[3] and in later times it carried most of the traffic going south-eastwards.

[1] The name Forum Decii occurs in this section, and suggests that a member of the Decian house was responsible for its construction.

[2] On these see Ashby in *Papers of the British School*, i. 127 ff.

[3] The triumphal arch of Beneventum (cf. p. 112) marks the starting-point of this road.

It was not until Rome had consolidated her power in central and southern Italy that she turned her face northwards; and although the colony of Ariminum (Rimini) was founded as an outpost against the valley of the Po in 268 B.C., the Via Flaminia, which formed the main line of communication with Northern Italy, dates from 220 B.C., when the censor C. Flaminius carried the first military highway across the Apennines. Probably a road was already in existence following the valleys of the Tiber and the Nar as far as Spoletium; it was now taken over the pass of Scheggia (about 800 metres high), and down to Fanum Fortunae (Fano) on the coast of the Adriatic, a short distance south of Ariminum. The most notable event in the history of the road was its restoration by Augustus, commemorated by the triumphal arch which still stands in the main street of Rimini.

The second century B.C. saw a rapid growth of the road-system in Italy, and the beginnings of its extension beyond the peninsula. In 187 B.C. the consul, M. Aemilius Lepidus, continued the Flaminian Way through the valley of the Po to Placentia, and gave to it the name which the district traversed by the road bears to this day (Emilia); and from Bononia the fellow-consul of Lepidus, C. Flaminius, made a second road over the Apennines to Arretium. Some years later—we know not when—the coast-road from Rome to Genoa and on to Vada Sabatia (Vado on the Riviera di Ponente) was built by one of the Aurelii Cottae, and hence bore the name of Via Aurelia; and the two systems were linked up by the construction of the Via Postumia (148 B.C.) from Placentia to Dertona, and that of the Via Aemilia Scauri (109 B.C.), from Dertona to Genoa. The inland route through Etruria, which passed through Arretium, Florentia, and Pistoria to join the coast-road at Luna, completed the chain of communications with the north-west: this route seems to be known both as Via Cassia and Via Clodia, but we cannot determine with certainty which individual members of those *gentes* were responsible for its construction. To the north-east the fortress of Aquileia, which kept the gate of Italy from 181 B.C., was put in communication with Bononia by the Via Aemilia, built perhaps in the second consulship of the Lepidus above-named (175 B.C.), with Placentia by the Via Postumia (148 B.C.), and with Ariminum by the direct coast-route known as the Via Popillia from its maker, the consul of 132 B.C. This same Popillius had made the southern coast-road from Capua to Rhegium, 321 miles in length, as he tells us in the famous inscription found at Polla in Lucania, in which he boasts that he was 'the first to make shepherds give place to ploughmen on the public lands.'[1] But for the discovery of this monument his services would have been lost to history; the road ceased to bear his name, and is treated in the Itinerarium Antonini (see below) as an exten-

[1] *C. I. L.* i. 551 = x. 6950; Dessau 23. Nissen believes the Popillius in question to be the censor of 159 B.C.; but the reference above quoted is clearly to the Lex Agraria of Tiberius Gracchus (133 B.C.).

sion of the Appian Way. It is likewise to an isolated inscription, discovered in Rome, that we owe the mention of the most direct route between the capital and the Adriatic coast—the Via Caecilia, whose course we are not able to trace with certainty, but which seems to have diverged from the Via Salaria thirty-five miles from Rome, crossed the Apennines north of the Gran Sasso d'Italia, and descended the valley of the Vomano to Hatria. The inscription[1] dates from the period of Sulla; but the road was in existence before that period.[2]

Such were the trunk-lines of communication in Italy established by the Republic; and the Empire added but little. It is to be noted that Claudius restored a Via Valeria (whose date is unknown) which ran eastwards from Tibur, and made it the principal highway, under the name Via Claudia Valeria, between Rome and the Adriatic coast, which it reached at Aternum.[3] But the Roman road-makers were already at work in the provinces in the second century B. C. The construction of the military highway which crosses the Balkan peninsula from Dyrrhachium and Apollonia to Thessalonica—the overland route to the East—must be dated after the annexation of Macedonia (146 B. C.), yet not much later, since Polybius mentions it. It can hardly be doubted that it derives its name (Via Egnatia) from a member of the *gens* of the Egnatii, though many authorities adopt the singular hypothesis that it was called after the town of Gnathia or Egnatia on the Apulian seaboard! The route had been in use since the beginning of history. In the West, too, the conquest of Gallia Narbonensis (122–120 B. C.) led to the construction of a military road from the Rhone to the Pyrenees—the Via Domitia, which took its name from Cn. Domitius Ahenobarbus, the conqueror of the Arverni.[4]

But it was not until the reign of Augustus that the pacification of the Alpine tribes made it possible for the Romans to carry their highways over the mountain barrier.[5] The coast-road along the Riviera, which from La Turbie[6] kept somewhat to the north of the 'Corniche' of modern times, bore the name Via Julia Augusta, and dates from 13 B. C. A milestone of Augustus counts 604 miles from Rome to La Turbie, and proves that the route was officially regarded as an extension of the Flaminian and Aemilian Ways.

The western Alps were crossed by several routes. The easiest was that by the pass of Mont Genèvre (Alpis Cottia), which is only 1,860 metres in height. In the valley of the Druentia

[1] *C. I. L.* vi. 3824 = 31603; Dessau 5799.

[2] A milestone (*C. I. L.* ix. 5953 a; Dessau 5810) bearing the name of L. Caecilius Metellus, consul in 117 B.C., probably belongs to this road and gives the name of its builder.

[3] A cross-road, the Via Claudia Nova, connected it with the Via Salaria.

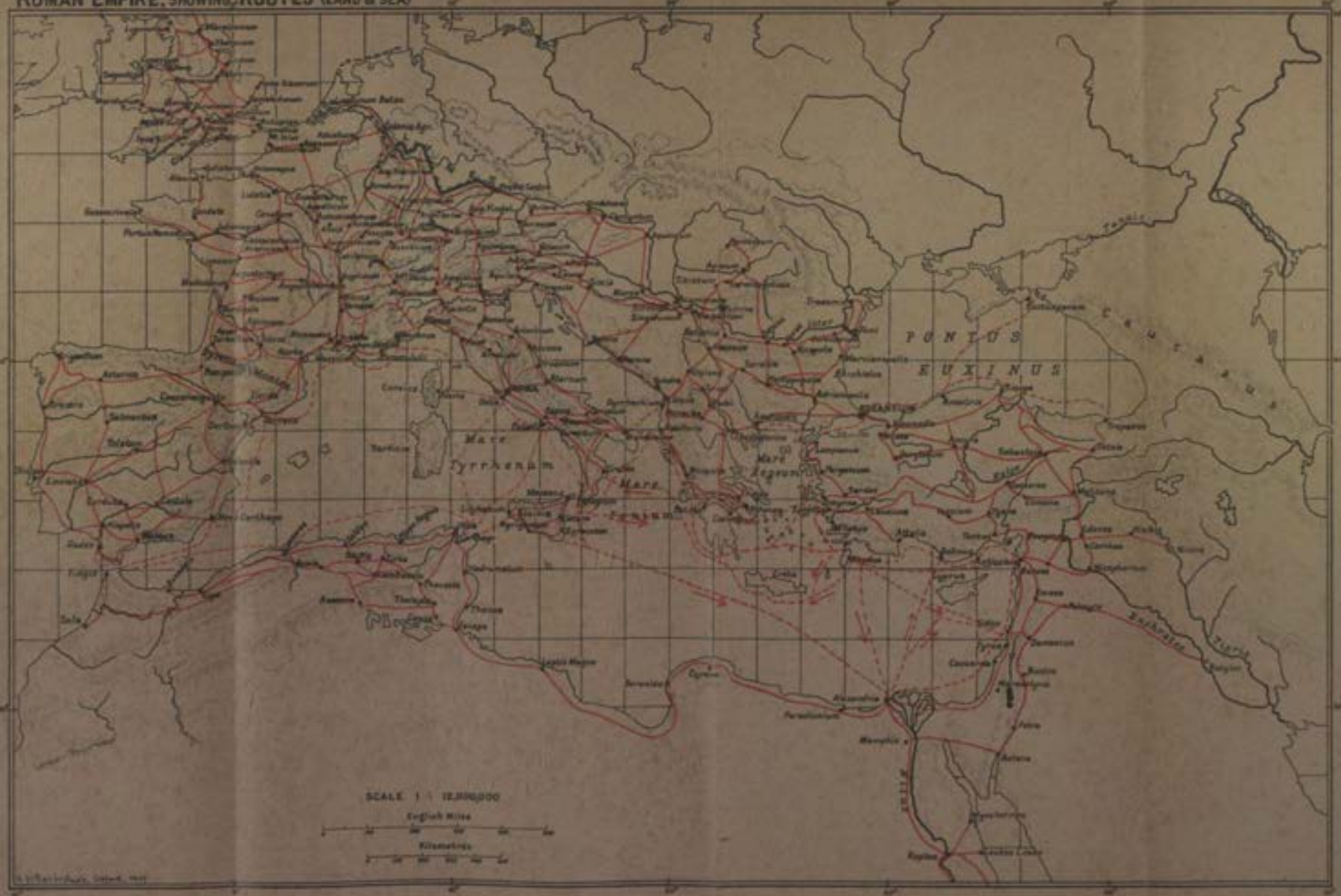
[4] Polybius iii. 39. 8.

[5] In Republican times troops destined for South Gaul and Spain were generally embarked at Pisa.

[6] The name is derived from the Trophy of Augustus, whose remains exist near Monaco (cf. p. 223).

(Durance) the roads to Arelate and Valentia diverged. From Augusta Praetoria (Aosta) started the roads which crossed the Great and Little St. Bernard; the latter gave direct communication with the lower Rhone valley and Vienna (Vienne), the former became the main route to the Rhine. It would seem that neither Simplon nor St. Gotthard were used by the Roman armies, but the Splügen was crossed by an important road to Brigantium (Bregenz) and Augusta Vindelicum (Augsburg); an alternative loop was formed by the Julier. The main line of communication, however, between the valleys of the Po and the Danube was established by Drusus, the stepson of Augustus, in 15 B. C., by the construction of a road across the Reschenscheideck, which parts the valley of the Adige from that of the Inn. Two of the milestones set up by Claudius, the son of Drusus, who restored his father's road, bear witness in grandiloquent terms to the origin of the highway. The somewhat less circuitous route over the Brenner was also in use in Imperial times. Finally, the passes of the Julian Alps were opened up and roads built to Aguontum and Virunum in the valley of the Drave: and the great highway to the Danube region and thence across the Balkans to the east, passed through Emona (Laybach), and so across the Birnbaumer Wald to Poetovio (Pettau).

The development of the road-system under the Empire is illustrated by Map 4, in which only the main routes are indicated. It is impossible to trace in detail the steps of the process by which the provinces were covered with a network of highways which have aptly been compared with the railways of modern Europe, and in many instances follow the same routes. In some cases the function of a road was pre-eminently strategical; thus in chap. III, § 6 will be found an account of the *limites* by which newly conquered territory was opened up, or (in a later sense of the term) the line of the frontier was marked, and military communications between the garrisons made easy. The road constructed by Trajan 'from Gaul to the Black Sea' (p. 247) is of this latter character. Naturally we find that existing trade-routes were often converted by the emperors into arteries of communication. The main highway to the East which followed the course of the Save and afterwards of the Morava, then, crossing the Balkans, was continued to Byzantium, had no doubt seen the passage of traders between Italy and Asia from early times; and to take another example, the route from the Adriatic coast at Lissus to the Danube at Ratiaria which was rendered passable for troops under Tiberius at the latest, is shown by the finds of coins which have been made upon it to have been an old trade-route. Thus, again, in Asia Minor, the old trunk lines of communication were subordinated to the strategical situation whose elements were a hostile Parthia and a doubtful Armenia. When the Flavian emperors seriously grappled with the problem presented by the defence of the Upper Euphrates, and established legionary camps at Samosata, Satala,


ROMAN EMPIRE, SHOWING ROUTES (LAND & SEA)
PONTUS EUXINUS
CAUCASUS
Mare Tyrrhenum
Mare Aegeum
Mare Ionium
SCALE 1 : 12,000,000
English Miles
Kilometres

and Melitene, the old northerly trunk-route through the kingdom of Pontus following the valley of the Lycus was made into a strategic highway by which supports could be sent to the garrison at Satala, just as Melitene was the terminus of the central highway of Asia Minor. The old trade-route running north and south from Amisus was not so treated, as it was not strategically important; on the other hand, a road parallel with the upper course of the Euphrates connected the legionary camps, and was prolonged to give communication with the naval base of the Black Sea fleet at Trapezus.

In our own island, the course of the main roads bears eloquent testimony to the direction pursued by the Roman conquest. Like the railways of modern England, the chief highways radiate from London, which is itself connected with the Kentish ports by a road constructed on the line of a British trackway. How far the other arteries of communication reproduce the trade-routes of Celtic times is a question to which the evidence at our disposal admits of no certain answer: all that we can say is that the routes used by the Romans were those which gave the outlying garrisons in the northern and western military area direct communication with the south-eastern ports, and so with their continental base. There is but one notable exception—the Fosse Way which cuts athwart the Roman road-system from Lincoln to Exeter; and this must clearly have been a Celtic highway of the first importance, which carried so much of the internal traffic of Britain that it was worth the while of the Imperial Government to convert it into a paved road. But it is significant that in the *Itinerarium Antonini* (p. 48) only the northern section from Lincoln to High Cross, where it intersects the so-called 'Watling Street', is recognized. Upon the other hand, the old route known as Icknield Street, which proceeds in a direction roughly south-west to north-east and is traceable from Wiltshire to Cambridgeshire, is clearly shown by its irregular course to have been a pre-Roman trackway, which never claimed the attention of the Government. Thus the principle is once more illustrated, that the highways of the Empire were constructed with a view to military or administrative ends, and not for purposes of trade. As an exception, we may note the road from Simitthus to Thabrace, by which the produce of the marble quarries of Numidia was brought to the sea for shipment to Rome. This seems to have been paved by Hadrian; but since the rarer marbles were in constant demand for the Imperial buildings in Rome, their transport was in fact a branch of the central administration.

The normal construction of a Roman road is usually described in terms borrowed from the rules given by Vitruvius (vii. 1) for laying mosaic pavements. We must bear in mind, however, that these instructions do not apply directly to road-making, and chiefly help us in the matter of terminology. Upon a smooth bed of rammed earth, according to Vitruvius, was laid a course of stones

large enough to fill the hand (*statumen*). Then followed a layer of rubble mixed with lime (*rudus*), nine inches thick, and above this again a stratum of fine concrete (*nucleus*) made with lime and pounded tiles (*testae tunsae*). This forms the bedding for the mosaic floor (in the passage of Vitruvius), or, in the case of the road, for the raised paving—the *dorsum* or *agger viae*. This account, though far from being generally applicable to Roman roads, fairly well represents the type to which those of more elaborate construction conform. In these we usually found a bedding of smooth flags (with or without mortar), a layer of coarse rubble, and a bed of finer concrete upon which the paving rests. But the varieties of construction are infinite. At times we find the bedding reduced to a single layer of rammed gravel, which in the causeway now represented by Edgware Road is supported on either side by dwarf walls of concrete: upon this rests the paving of large flints set in lime grouting. In other cases a thin stratum of rammed earth intervenes between the finer and coarser materials. As an example of specially elaborate construction we may take the road from the Kentish ports to London which crosses the valley of the Medway near Rochester. Here the marshy ground required a foundation of piles, upon which is a layer, three feet six inches thick, of flints and Kentish rag (containing fragments of tiles). A layer, five inches in thickness, of rammed chalk, intervenes between this bedding and a seven-inch course of broken flints. These two flint courses take the places of the *statumen* and *nucleus* of Vitruvius. The *rudus* is represented by a nine-inch layer of gravel or small pebbles mixed with black earth, upon which rests the polygonal paving; the joints of this are filled with fine gravel. As a normal example of road-construction in Britain we may take the Fosse Way (p. 45) as it may be seen near Radstock. Here the irregular paving-blocks, set in lime grouting, rest on a layer of fine cement made of local stone pounded and mixed with lime, $10\frac{1}{2}$ inches thick, beneath which we have coarser concrete made of local oolite, $1\frac{1}{4}$ feet in thickness, and a five-inch bed of rubble stones.

There is much variety, too, in the metalling. The roads in and around Rome are invariably paved with polygonal blocks of lava (*silex*) carefully jointed, and this was the type of surface preferred by Roman road-makers[1]: but we also find

(*a*) squared flagstones, e. g. in the fine causeway which may be traced on Blackstone Edge, and in the roads in Northern Syria, paved with huge slabs of basalt;

(*b*) rammed gravel; this is common in the Rhine district (where the lower strata conform fairly closely to the normal type) and is found e. g. in the *via angularis* (cf. p. 229, note 2) of the legionary camp at Carnuntum;

[1] The law-books distinguish the *via munita* in the proper sense from the gravel road (*via glareata*) and this again from the mere levelled track without metalling (*via terrena*).

(*c*) concrete, which in the earlier roads on the Danube was laid from 30 cm. to 1·80 m. thick without bedding.

Whatever the nature of the surface, it always had a considerable convexity for purposes of drainage; and we often find regular ruts for wheeled traffic; for example, on the Fosse Way these have a gauge of $2\frac{3}{4}$ feet. In or near towns we generally find side-walks (*margines*) raised from 12 to 18 inches above the edges of the road-way: and at Pompeii may be seen, at each crossing, stepping-stones corresponding in height with the level of the side-walks. These vary in number from three to five, and were needful because the surface-drainage of the streets was insufficient to carry off heavy rains.

Much light is thrown on the history of Roman highways by inscriptions, above all by those on the milestones, of which some four thousand have been found in various parts of the Empire. Plutarch speaks as though the invention of milestones was to be ascribed to Caius Gracchus (*C. G.* 7): but it was of much earlier date. At Mesa in the Pontine marshes has been found a milestone (Dessau 5801) bearing the names of two curule aediles who may perhaps be identified with consuls of 251 and 249 B.C., and the numbers ↓ III (53) and X. The higher number must refer to the Via Appia, the lower to a branch-road. The milestones which bear the names of M. Aemilius Lepidus and S. Postumius Albinus, the builders of the Via Aemilia and Via Postumia (p. 43), are not contemporary with the laying down of the roads; but L. Popillius, the consul of 132 B.C., has left his name on two monuments—the eighty-first milestone on the road from Ariminum to Atria, and the inscription already quoted on p. 43, relating to the construction of the road from Rhegium to Capua. It is probable, indeed, that the practice of erecting milestones was borrowed by the Romans from the Hellenistic monarchies. Uninscribed stones, apparently of Ptolemaic date, have been found in Egypt, when the unit of measurement was the *schoinos* (about four Roman miles), and the 'royal roads' of the Seleucid kings were in all likelihood provided with milestones: indeed, it would seem that M'. Aquilius, who carried out the annexation of the kingdom of Pergamum in 129–126 B.C., did no more than engrave Roman numerals on the bilingual milestones of the province of Asia, whose roads were no doubt the work of the Attalids.

Beside the names of the consuls who gave their names to the *viae consulares* of the Republic, and of the aediles, who were concerned with their repairs, those of *curatores viarum* are at times recorded. The inscription mentioned above (p. 43), to which we owe our knowledge of the Via Caecilia, records the contracts entered into by such a *curator*, T. Vibius Temudinus, for various sections of the road, together with the sums expended on their construction. A section twenty miles in length, which was gravelled (*glarea sternenda*) and, where it crossed the Apennines, paved (*munita*), seems to have cost 150,000 sesterces (about £1,500).

In the present state of our knowledge it is impossible to determine whether such *curatores* were a permanent institution in Republican times or were appointed as occasion arose: Augustus set his hand to the repair of the Italian highways in 27 B.C. He himself undertook the repair of the Via Flaminia, and assigned the remainder to various *triumphatores*, such as C. Calvisius Sabinus, who put the Via Latina in repair. The triumphal arch at Rimini (Ariminum), where the Via Flaminia ended, bears an inscription which tells how 'the most frequented roads of Italy were paved on his initiative and at his expense'.

In 20 B.C. a permanent board of *curatores viarum* was instituted for the Italian highways: for a few years their inscriptions bear the legend *ex s(enatus) c(onsulto)*; but after the reign of Augustus this is no longer found, and the entire road-system of the Empire is under direct Imperial control. The expenses of construction and maintenance were borne in part by the *fiscus* or Imperial treasury, in part by local authorities.[1] It is probable that under the Early Empire, where we find the emperor's name on milestones in the nominative case, we are to infer that the road was made on account of the *fiscus*; where the local authority bore the cost, the emperor's name appeared in the dative. Roman milestones often give information such as we should not now read on such monuments. Claudius, for example, tells us how his father Drusus 'opened up the Alps by war' and made a road from the Po to the Danube: Trajan records how, 'when Arabia was reduced to the status of a province', he 'opened up and paved a new road from the boundary of Syria to the Red Sea by the agency of C. Claudius Severus': Caracalla boasts that 'for the space of twenty-one miles he laid at his own expense fresh flints' on the Appian Way, which was 'inadequately paved with white stone and had fallen into disrepair'. In late times we find fulsome expressions of adulation bestowed on the reigning Emperor; even Julian's anti-Christian legislation seems to be recorded in the words *ob deleta vitia temporum praeteritorum*. It is worthy of note that in Gaul we find the local measure of distance—the *leuga* or league, about $1\frac{1}{2}$ Roman miles—in use as early as the time of Antoninus Pius, as well as in the German provinces from the period of Septimius Severus.

As a rule the roads of each province were under separate management, and the distances given on the milestones do not extend beyond the provincial boundary; on the great trunk road of Southern Spain (Baetica) the milestones are numbered 'from the Arch of Augustus where Baetica begins' to the ocean. Sometimes, but rarely, the distance to Rome was given; thus a milestone of the Augustan period found between Narbonne and

[1] An inscription of Hadrian (Dessau 5875) records the restoration of the Via Appia for a space of 15 miles, 750 paces; 569,100 sesterces were contributed by the neighbouring owners of property, to which the emperor added a subvention of 1,147,000 sesterces. The cost works out at something over £1,000 a mile.

Toulouse gives two figures (921 and 902) which seem to refer to alternative routes to Rome. In Rome itself the 'golden milestone' set up by Augustus beneath the temple of Saturn recorded the distances which separated the capital from the principal cities of the Empire. Its erection commemorated the survey of the Empire undertaken by Augustus's commands, and carried out by Agrippa, whose map was set up after his death in the Porticus Vipsania (p. 110). This no doubt formed the basis of all succeeding surveys, and it has been demonstrated that the road-book of the Empire preserved to us under the title of the *Itinerarium Antonini* (the name here seems to signify Caracalla) and the treatise compiled in the seventh century A.D. by the so-called 'Geographer of Ravenna', which are of great value to us in determining the nomenclature of Roman cities, are derived from maps. This accounts for the fact that as a route-book the *Itinerarium Antonini* is almost valueless. For example, alternative routes from York to London are given (*a*) by Chester, (*b*) by Lincoln and High Cross, whilst the direct road is ignored. In some provincial towns inscriptions were set up indicating the chief routes (with distances) in the neighbourhood; fragments of such have been discovered at Autun (Dessau 5838) and Tongres (Dessau 5839).[1]

The chief administrative function served by the roads was the *cursus publicus*, or Imperial posting-service. Under the Republic not only private individuals, but even officials of the State, were obliged to rely on hired letter-carriers (*tabellarii*) for the conveyance of their correspondence. Augustus organized relays of messengers for carrying dispatches to and from the provinces, and afterwards substituted a system of posting-houses at which horses and carriages could be changed, in order that important messages might be delivered to him by word of mouth. The system was also used for the conveyance of officials travelling in the service of the State when expedition was necessary; in such a case an Imperial passport (*diploma*) had to be shown. The expense of the service was so great that even the Imperial letter-carriers generally travelled on foot; a special corps of *tabellarii diplomarii* enjoyed the privilege of using the *cursus publicus*. The cost was borne by the local authorities, except during certain periods, when emperors, such as Hadrian or Septimius Severus, endeavoured to gain popularity by transferring the burden to the Imperial treasury. Under the later Empire the *cursus publicus* existed in two forms—a service of heavy wagons for the conveyance of goods and passengers, drawn by oxen (*cursus clabularis*), and a more rapid posting-service (*cursus velox*) for which mules and horses were used.

[1] In 1852 there were found in the ancient baths of Vicarello on the Lago di Bracciano four silver vases in the form of milestones, upon which were engraved the names of all the stations on the route from Gades to Rome, with the distances between them. They are not all of the same date, and it is clear that there must have been a regular industry which produced these traveller's aids.

We are naturally far less well-informed as to the sea-routes of antiquity than as to the road-system. The principal of these are marked on Map 4. They were largely coasting routes, since ancient seamen hesitated to venture far from land in uncertain conditions, and the exceptions to the rule were determined by certain phenomena whose regularity was observed. During the winter months—from November 10 to March 10—seafaring traffic was suspended; indeed, the high seas were considered unsafe except in the summer months, from May 26 to September 14. During most of this time—according to the ancient theory, for forty days from July 20—the prevailing air-currents ('Etesian winds') in the Mediterranean were westerly. Hence the eastward-bound ships starting from Ostia or Puteoli steered a direct course for Alexandria after passing through the straits of Messina, and this route was often taken to Syria in preference to that which passed south of the Peloponnese, and so across the Aegean to Rhodes, and thence along the south coast of Asia Minor. On the return journey, however, it was impossible to make headway across the open Mediterranean in the teeth of the Etesian winds; it was therefore usual to make for the Pamphylian coast, sighting the westernmost point of Cyprus, thence to coast along to Rhodes, and afterwards to pass to the south of Crete and thence to the west coast of the Peloponnese, from which either Brundisium or the straits of Messina were easily reached.

The speed of ancient sailing-ships has been variously estimated. In the opening chapter of the nineteenth book of his *Natural History* Pliny sings the praises of flax—'the plant which brings Egypt so near to Italy that Galerius reached Alexandria on the seventh day after leaving the Sicilian strait and Balbillus on the sixth day (both were viceroys), while in the summer season Valerius Marianus, a senator of praetorian rank, reached Alexandria from Puteoli on the ninth day with a gentle breeze—the plant which brings Gades from the pillars of Hercules to Ostia on the seventh day, hither Spain on the fourth, the province of Narbonensis on the third, and Africa on the second (this happened even with a gentle wind to C. Flavius, the legate of the proconsul Vibius Crispus).' These voyages have often been taken as examples of normal speed: but it is surely clear that they are recorded by reason of their remarkable celerity. Ramsay estimates the average time occupied by the passage from Alexandria to Puteoli at fifty days, pointing out that the 'ship' whose voyage is described in Lucian's dialogue of that name took seventy days to reach the Piraeus on this journey—of course, under unfavourable conditions. Much stress has been laid on the fact that, as the dating of papyri shows, the accession of Pertinax (January 1, A. D. 193) did not become known in Egypt until the first week in March: but it is doubtful whether the news in this case travelled by sea. The *cursus publicus* was employed in the conveyance of dispatches in preference to sea transit, and the couriers to the East usually journeyed via Brundisium, Apollonia, and the Via Egnatia, and

then crossed either from Neapolis in Thrace to Alexandria Troas, or passed the Hellespont at Lampsacus, continuing their journey southwards through Pergamum to Sardis, and thence by the eastern highway. Probably the news of Commodus's murder was thus conveyed to Egypt. More reliable data are furnished by the statements of ancient geographers who estimate the average day's run of a sailing-ship at 1,000–1,500 stadia (100–150 knots, or about 4–6 knots an hour), and from the practice of lenders who advanced sums on bottomry: 200 days were allowed for the journey from Berytus to Rome *and back*, and we may take it that the estimate was a liberal one. It has been disputed whether or no ancient ships could work to windward; but the evidence is in favour of their having done so. The expressions used by Cicero (*Fam.* xiv. 5. 1) who mentions a 'slow and uncomfortable voyage with contrary winds', and Lucian (*Navig.* 9), who speaks of a ship 'sailing obliquely in the teeth of the Etesian winds' (πρὸς ἀντίους τοὺς Ἐτησίους πλαγιάζοντες), are not quite conclusive: but Pliny (*N. H.* ii. 128) uses the expression *prolatis pedibus*, 'with the sheets braced forward', i.e. close-hauled (opposed to *aequis pedibus*, a phrase used by Cicero), and this implies that a ship could sail with the wind before the beam. It has been argued that tacking was impossible[1] without a jib or mizzen, but the ancients did in fact employ a species of jib called the *artemon*, and the lexicographer Isidore of Seville tells us that it was invented *dirigendae potius navis causa quam celeritatis*; moreover, the oars might be used for 'going about'. The ancients were therefore not entirely dependent on fair winds for the accomplishment of their voyages.

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[1] In the passage of Pliny quoted above the words *iisdem ventis in contrarium navigatur* cannot, as has been supposed, refer to a ship sailing on opposite tacks. *In contrarium* means 'in opposite directions' (the wind being on the beam).

CHAPTER II

ARCHITECTURE

§ 1. General; Materials and Methods of Construction.

The Romans, although they became the greatest builders of antiquity, were dependent for their knowledge of the principles of architecture on their Greek and Etruscan neighbours. The history of architecture in the Greek colonies of Southern Italy and Sicily belongs to that of Greek architecture in general; and its direct influence on Roman construction is relatively late. But the Etruscans were for a time masters of Rome, as of practically all Central Italy, and the 'Tuscan' style which the Romans saw in their earlier buildings was simply that which prevailed throughout the area of Etruscan influence as far south as Campania. The Etruscans, it is true, borrowed their architecture, like their alphabet, from the Greeks; but their style was none the less their own. Its main points of originality are the following:—

1. The prominence given to the arch, vault, and dome. The principle of the arch was indeed known to the Greeks. Several examples have been found in polygonal city walls in Acarnania, and a few other cases of its employment, as in the stage-buildings at Eretria and the entrance to the Olympian stadium, are known; but though sometimes used constructively, it was out of harmony with the rectilinear principle of trabeation, and it would therefore have been foreign to Greek ideas to give it a prominent place in the visible framework of their buildings. With the massive gateways of the Etruscan cities, such as Volterra and Perugia,[1] the arch takes its place as an artistic motive of primary importance.

2. The form of the temple. Throughout the Greek world the temple, whether surrounded by a colonnade or not, was almost invariably oblong in form, and stood on a platform approached on all sides by a short flight of steps. Where the temple front opened on a portico this was never of great depth in proportion to the total length of the building. Etruscan and, generally speaking, Roman temples (where Greek influence was absent) were very broad in proportion to their depth, often square, and were raised on a high platform or *podium*, approached by steps in front only. The actual temple or *cella* often occupied only half the platform,

[1] The dating of these remains is often far from certain; but that the type is pre-Roman and was created by Etruscan architects is clear. The gates of Perugia, for example, bear the inscription PERUSIA AUGUSTA, which dates from Augustus; but the words are awkwardly engraved, once on the voussoirs of the arch, once on a narrow architrave.

while a deep portico filled the remaining half. When, as was often the case, Etruscan temples were dedicated to a trinity of deities, three *cellae* are found side by side.

3. The form of the column. The Etruscans added to the three orders of Greek architecture a fourth, which is usually described (after Vitruvius) as a simplified form of the Doric. The column is unfluted and has a base, while the capital, especially in its later development, shows a much greater variety and richness of moulding than the Greek prototype. The intercolumniations, too, are wider than in the Greek order. Some of these features are conditioned by the nature of the materials employed. The marbles of which Greece had such an abundant supply were not to be found in Italy, and the columns of an Etruscan temple were either of wood—whence the absence of fluting and the width of the intercolumniation—or of coarse stone faced with stucco, which lent itself to variety of moulding. A primitive form of the Tuscan column is preserved in one example at Pompeii, which for some unexplained reason is enclosed in the wall of a private house.

Little now remains of the buildings erected at Rome during the period of direct Etruscan influence; for the monuments ascribed by tradition to the period of the kings cannot as a rule be admitted to possess the antiquity claimed for them. The 'Servian' walls, for example, must be assigned to the fourth or even the third century B.C.

Probably the earliest building in Rome is the so-called *Tullianum*, a domed chamber with a corbelled vault which recalls the bee-hive tombs of Mycenaean Greece, but seems to have been in origin a well-house, and was afterwards incorporated in the prison (p. 99) to the north of the Comitium, and used as a place of execution for criminals. Other specimens of early Roman construction may be seen in the retaining wall of the early Rostra (p. 99), the podium of the temple of Jupiter Capitolinus (p. 84), the remains of primitive masonry embedded in the podium of the temples of Saturn (p. 100) and the Castores (p. 100), and the earliest fortifications of the Palatine (p. 30 f.).

The material used in these buildings is the soft volcanic stone (*tufa*) quarried in Rome itself. This exists in several varieties, ranging in colour from yellow and green to light or dark brown, and the lighter and softer beds were those used in early times. In almost all the examples mentioned above a greenish variety now known as *cappelluccio* is employed. The technique is that of ashlar masonry in squared blocks laid dry[1]—*opus quadratum*. We do not find in Rome examples of the less regular styles, viz. 'Cyclopean' masonry, in which the walls are formed of massive unhewn blocks without regular joints and 'polygonal' work, in which blocks of irregular form are employed, but jointed as accurately as their shape permits. The latter style, as was said above, is common in Etruria and Latium, more particularly in the lime-

[1] A thin bed of lime is found in the joints of the vault of the Tullianum.

stone hill districts; as an example we may take the walls of Signia (Segni), shown on Fig. 9. But even the retaining wall of the Rostra, where the blocks are not always square nor the joints vertical, cannot be called polygonal. In the other buildings mentioned we see a tendency towards (*a*) a regular disposition of the blocks in courses of 'headers' and 'stretchers', (*b*) the employment of blocks of 'standard' size.

In the *podium* of the temple of Apollo in the Campus Martius (431 B.C.) (cf. p. 34), and the earlier portions of the Servian wall, Greek influence is seen in the fact that while the outer surfaces of

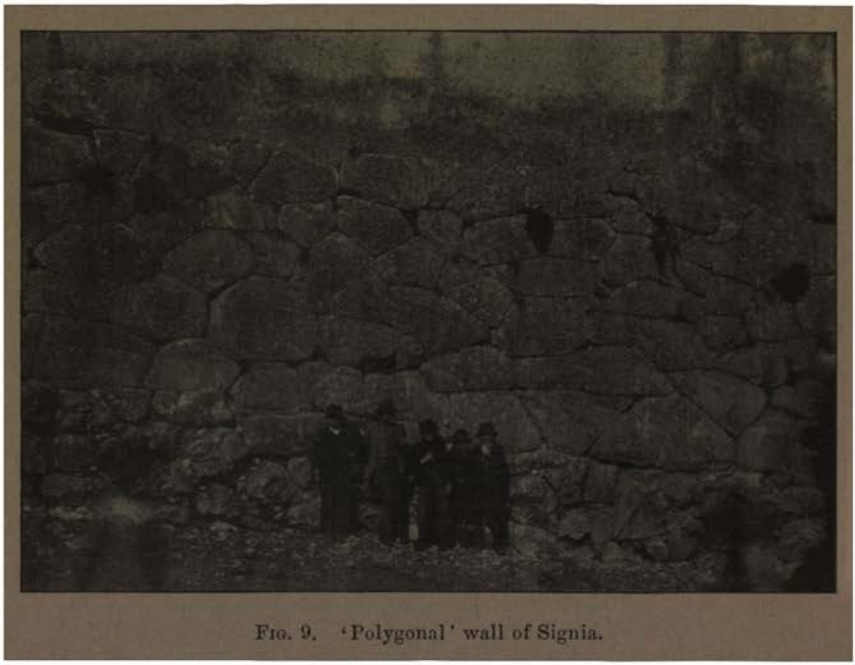


FIG. 9. 'Polygonal' wall of Signia.

the blocks are left rough, except for drafted edges, the beds and joints are worked away so as to touch only along the edge (*anathyrosis*).

Finally, in the later parts of the Servian wall we find the standard block, whose end is a square of two Roman feet and whose length is 4 feet, so that each stretcher ranges with two headers (Pl. IX), and the wall is 4 feet in thickness. The finest example of this construction is the façade of the Tabularium (78 B.C.) which overlooks the Forum. Such regularity was, however, exceptional. Vitruvius (ii. 8), who notes that ashlar masonry was proper to Greek rather than to Roman architecture, distinguishes *ἰσόδομον*, in which all the courses were of equal height, from *ψευδισόδομον*, where the courses were irregular. The latter was

the common form in later Rome, and this is due in part to a change of material. In early times, Roman builders employed stone of volcanic origin only, whether the tufa mentioned above or the conglomerate of ashes, gravel, &c., known as *peperino*, and found at Gabii,[1] twelve miles from Rome, and in the Alban Hills. In the later Republican period began the use of travertine—*lapis Tiburtinus*—the hard, cream-coloured limestone of the Sabine Hills, quarried near Tibur (Tivoli). This was at first used sparingly, either for ornament or to strengthen weak points (e. g. for the voussoirs of arches),[2] but in later times became the chief building stone, and is conspicuous in the great monuments of the Empire, such as the Colosseum.

Travertine, being very hard and laminated in structure, was worked in irregular blocks to avoid waste, and thus masonry of unequal courses became the rule. Often, however, an appearance of regularity was attained by the use of false joints (e. g. in the tomb of Caecilia Metella, p. 194).

It was not, however, in coursed masonry – *opus quadratum*—that the most characteristic triumphs of the Roman architect were achieved. Classical Greek masonry was laid dry, i. e. without mortar, but with perfectly fitting beds and joints further secured by iron clamps and wooden dowels, and this *technique* was almost always followed in Rome, a thin bed of lime being sometimes, but rarely, found. Less pretentious structures—now no longer preserved—were doubtless built of rubble and clay, perhaps bonded together, as in the earlier buildings of Pompeii, by a framework of dressed stone. In the third century B.C., the use of lime for mortar became known to the Greeks and Italians, and brought about a revolution in construction. Near the Greek settlement of Puteoli (Pozzuoli) were large beds of a chocolate-coloured volcanic earth called from its place of discovery *pulvis Puteolanus* (*pozzolana*). Mixed with lime it forms an immensely powerful cement, which sets hard even under water. It was thus invaluable to the inhabitants of the coast-line of the Bay of Naples. But *pozzolana* is also found in large quantities in and about Rome, and was used to make not only mortar for bedding brick and stone, but also that almost indestructible concrete (*caementum*) filled with lumps of tufa, *peperino*, lava (*silex*), broken brick, and even (in later and more wasteful days) travertine and still more valuable materials, which made it possible to raise the gigantic vaulted structures of the Empire. This *opus caementicium* was originally used in foundations and substructures only. In temples we find it encased in the stone facing of the podium; in other foundations it was run into timber frames or boxes in a fluid state. When the cement hardened, the timbers were generally (though not always) removed, leaving on the face of the concrete an imprint of the

[1] This variety is described in modern times as *sperone*.

[2] As a material for inscriptions, travertine is scarcely employed before the period of the Gracchi.

framework, which may often be seen. In the foundation of the colossal equestrian statue of Domitian in the Forum some of the timbers are still *in situ*, though almost carbonized.

The next step was to use concrete for walls and visible structures. Now, however, it was almost always faced in varying methods. The earliest of these is known as *opus incertum*. In this the wall is studded with smooth-faced lumps of tufa, irregular in shape but roughly pointed on the inner side (Pl. IV, a). This method was in use in the second century B. C., but in the course of the following century it gave place to a more regular disposition, known as *opus reticulatum*,[1] in which the facing presents a diaper pattern, being composed of pyramidal lumps of tufa, except for the quoins (Pl. IV, B). Pure *opus reticulatum* is, however, not often to be seen. Under the early Empire kiln-baked bricks (*testae*) and tiles (*tegulae*) superseded the sun-dried bricks (*lateres*) which had hitherto been in use, and from the reign of Tiberius onward brick is almost always used for the quoins of walls in *opus reticulatum*, while bonding courses of tiles are introduced at intervals. Thus the use of *opus reticulatum* comes to be confined to panels in brick-faced walls, and even of this there are few important examples later than the Villa of Hadrian at Tivoli. Brickwork (*opus testaceum*) is almost always, like *opus reticulatum*, employed as facing for a core of concrete, the bricks being triangular in shape, while courses of large tiles take their place at intervals. The date of Roman brickwork may be approximately inferred from the thickness of the mortar-joints, which increases in proportion to that of the brick courses. In the Augustan period the ratio of brick to mortar is commonly 2 : 1, in that of Hadrian 3 : 2, under the Severi 4 : 3, in the time of Constantine 1 : 1. Finally, in the decline of the Empire, we find bricks used in combination with small squared blocks of tufa in alternating bands, a form of construction to which the name of *opus mixtum* has been given by modern writers. The most conspicuous example in Rome is furnished by the Circus of Maxentius on the Via Appia (A. D. 309).

The walls which have just been described were, however, rarely exposed to view even on the outside of buildings[2] and never on the inside. They were usually coated with stucco, of which there were various kinds. The coarser stucco used for ordinary exteriors was made of lime and sand (*calx harenatus*), while if a hydraulic cement were needed, as in cisterns and aqueducts, the lime was mixed with *pozzolana* and pounded tiles (called *opus Signinum*, because invented at Signia [Segni]). For decorative purposes, however, the Romans used *caementum marmoreum*, i.e. stucco made of lime and pounded marble. Vitruvius (vii. 3, 4) directs that where the surface is to be painted in fresco six coats (*coria*) of stucco are to be

[1] Vitr. ii. 8, 1 'Structurarum genera sunt haec, reticulatum quo nunc omnes utuntur et antiquum quod incertum dicitur.'

[2] The Aqueduct built by Nero for the extension of the Aqua Claudia on the Caelian (p. 144) forms an exception to the usual rule.

A. *Opus incertum.*

B. *Opus reticulatum* with quoins and bonding courses of *opus testaceum.*

applied, three of the coarser sort and three of marble cement. This finer material was often used, especially in the Republican period, to render and enrich the architectural mouldings of cornices, friezes, capitals, &c., which were roughly blocked out in stone, as we see by comparing a column engaged in the wall of S. Nicola in Carcere with a sixteenth-century drawing of one of the same series which had not lost its applied stucco. In some cases we find more than one coat belonging to different periods,[1] and it is clear that mouldings were altered to suit the taste of the time when successive restorations took place.

Under the rule of the emperors temples and other public buildings, as well as the houses of the wealthy, were enriched with slabs (*crustae*) of many-coloured marbles, which covered part or the whole of the walls and pavement. This veneer is usually about three-quarters of an inch thick and is fastened with clamps which pass through a backing of cement, often three inches in thickness, into the wall. Every quarter of the known world was ransacked for precious materials—marbles, porphyries, alabasters, and so forth—and at least five hundred kinds, displaying an inexhaustible variety of colour and marking, are represented by specimens in modern collections made in Rome and its neighbourhood. In the Imperial palaces, the Atrium Vestae and the Villa of Hadrian, may be seen small portions of pavement and incrustation in this style; the principal elements of these are red and green porphyry (the latter often called serpentine), *giallo antico*, the ancient *marmor Numidicum*, of a deep golden yellow often flushed with pink, and *pavonazzetto* (*marmor Phrygium*), quarried at Synnada in Phrygia, a white marble with purple veins. These remains help us to understand the meaning of Augustus's boast—*latericiam accepi, marmoream reliqui*: for it was not the practice of the Romans to build temples, &c., in solid marble. The Regia (rebuilt 36 B.C.) and the circular temple in the Forum Boarium (Pl. XV) are amongst the rare examples of such construction.

We have now to consider the attempts made by the Romans towards the solution of constructive problems. It has been said above that they owed to the Etruscans their acquaintance with the arch, vault, and dome. It was the Etruscans who took the decisive step of deserting the principle of trabeation, which had received the fullest development of which it was capable in the hands of the Greeks, whose constructions may be regarded as simple masses of masonry depending for their stability on the direct vertical resistance of the supporting members. The new principle of arcuation called into action the lateral thrusts of the blocks of material, and by concentrating these on specially strengthened points, enabled a far wider space to be spanned without intermediate supports. The Etruscans, however, did not realize fully

[1] Such a double coat is well seen on the fragments of *peperino* columns belonging to the temple of Magna Mater on the Palatine, which are set up against the podium.

the possibilities thus opened, nor did they progress beyond the simpler applications of the principle, seen in their gateways, bridges, sewers, and vaulted tombs. It was left for the Romans to apply it to the solution of more complicated problems.

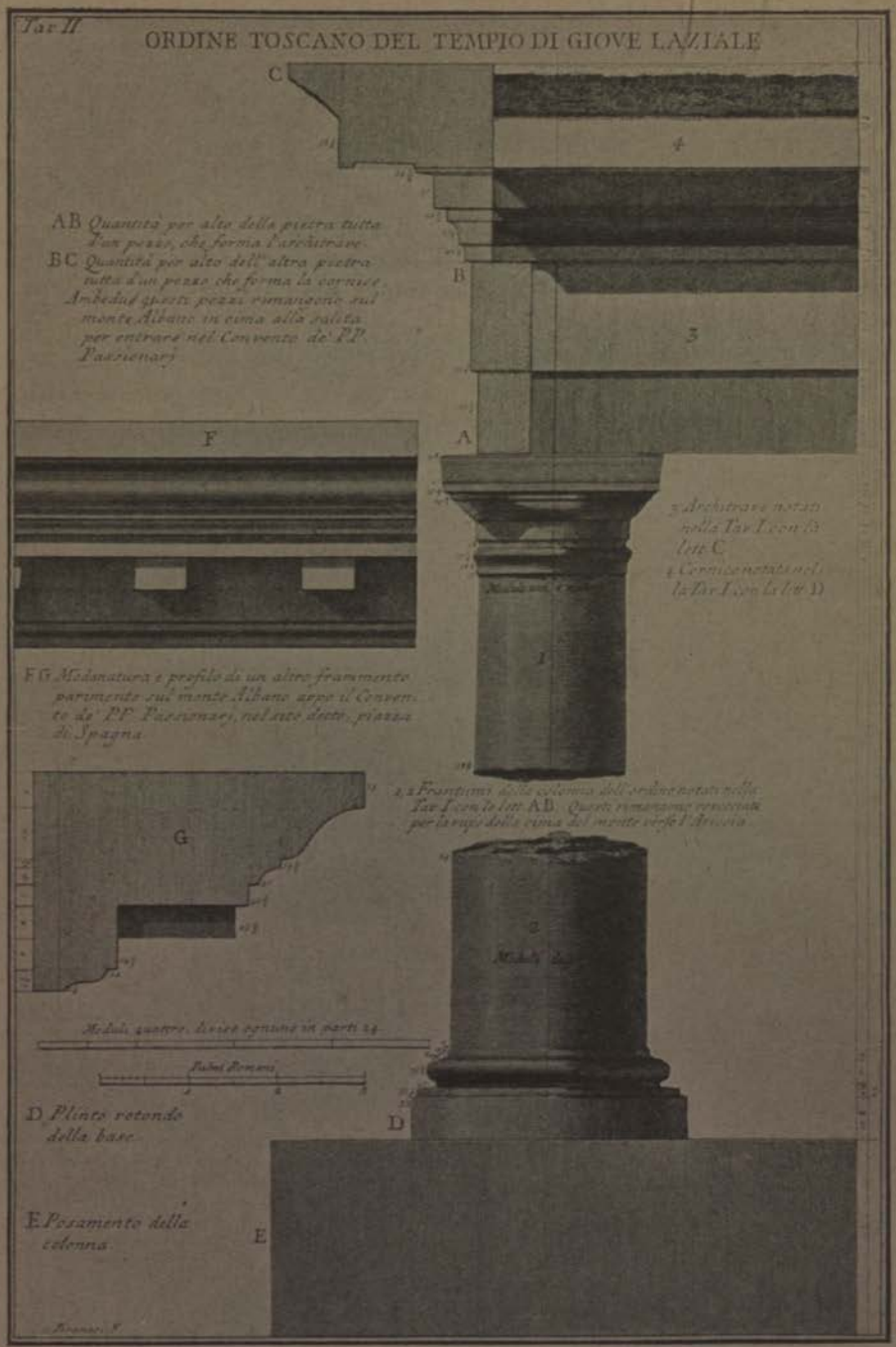
The Etruscans themselves seem to have felt the desire for a wider span than the narrow intercolumniations of the Greek temple. Their temples were generally *araeostyle*, that is to say, the columns were set wide apart; but this result was compassed by substituting for the marble or stone architrave a wooden beam faced with ornamental plaques of terra-cotta. The Romans solved the same problem by constructing the architrave as a flat arch, or, where the architrave was of brickwork, it was surmounted by a relieving arch which bore the weight of the wall above. Where, however, the Romans were not copying the artistic forms of Greek architecture, they usually spanned the space between the supports by an arch, whether cambered, segmental, semicircular, or stilted; and their most characteristic decorative scheme is that of the arcade combined with engaged columns, often, as in the classical example of the Colosseum, carried to a height of several stories, with superposed columns of various orders. The Romans seem to have recognized no inappropriateness in this divorce between decoration and function—for the sham columns and architraves are of course mere enrichments of the wall-surface.

From the arch we are led to the vault; and it was here above all that the Roman architects displayed their constructive genius. It was not, as we shall see, in massive constructions of dressed blocks that the greatest results were achieved. There remain, however, monuments both in West and East, such as the aqueducts and amphitheatres of southern France and the temples, baths, &c., of Syria, which show fine examples of vaulting in coursed masonry. It is especially noteworthy that in order to economize 'centering'—i.e. the timber framework on which vaults were raised—the construction often took the form of a series of parallel arches which were not keyed into each other, the set of timbers being shifted as each was completed (see the 'Pont du Gard', Pl. XXV). This feature is characteristic of Southern Gaul. Another device was to erect a series of arches on centering at short intervals. These arches had flanges into which blocks could be fitted to fill the intervening spaces. In Syria, and especially in the Djebel Haurân, where wood was scarce and the native basalt was used not only for walls and roofs, but for floors, doors, and shutters, the technique of masonry was more highly developed than in any other part of the Roman world, and the extant remains of basilicas whose stone vaulting was carried on transverse arches show that the problems which exercised mediaeval builders had been faced and partly solved by the eastern architects of the later Empire.

It was, however, the enormous strength of the *pozzolana* cement described above which enabled the architects of the capital to raise the gigantic vaulted structures which still tower over modern

Rome. It has been said that the rigidity of these concrete vaults was such that they exerted no lateral thrust on the supporting walls but covered the enclosed space like a metal lid. In that case not only must the arches and ribs of brickwork which we see embedded in Roman vaulting be pronounced to have no significance beyond that of temporary 'centering', but the systems—often, as in the case of the Pantheon, extremely elaborate—of relieving arches of brickwork are a mere sham. But it is far from clear that the arcuated brickwork of the Pantheon is structurally valueless: and it is quite certain that the Romans understood the advantages of concentrating pressure on specially strengthened piers, and although the flying buttresses of Gothic architecture were foreign to their system, they showed much ingenuity in devising systems of mutually-supporting structures. The simple barrel-vault was not often used in buildings of the largest scale except in temples, such as that of Venus and Rome (Fig. 13), and the great temple at Baalbek (Fig. 14). The cross-vault, formed by the intersection of two half-cylinders, was very common, and the largest existing rooms—the great halls of the Basilica Nova (Fig. 18) and the Baths of Diocletian (Fig. 20) and Caracalla—are spanned by three such vaults, forming a groined vault of three square bays. The weight of the roof is thus distributed between six enormous piers, and, as other rooms open upon each bay, their side walls act as invisible buttresses. Artistically speaking, the triumphs of the Roman architects are to be sought in the 'symphonies in space' which their interiors present; the exterior of these colossal buildings makes no such appeal either to the aesthetic sense or to the intellect as the Greek temple. The artistic treatment of internal space is well illustrated by the history of domed structures. The simple severity of the Pantheon with its hemispherical cupola lighted by a single opening at the summit and reposing on a circular tambour broken only by niches, stands in sharp contrast with the more lightly articulated buildings of later times, and for that matter with some curious examples from the contemporary Villa of Hadrian near Tivoli. We find the cupola constructed in ribs and lighted with windows, the tambour split up into piers and buttressed by niches and passages, while the plan of the building is often polygonal and the problem of effecting the transition between this and the circular dome leads gradually to the discovery of the pendentive, which, however, in Roman times only approximates to the pure form of the spherical triangle, e.g. in a domed octagonal hall belonging to the Baths of Caracalla. The so-called 'Temple of Minerva Medica' at Rome, which really belonged to the private Baths of Gallienus (A. D. 260–268), a ten-sided room with a cupola built upon ribs so as to distribute the thrust, marks a further advance.

But although the genius of the Romans was triumphantly shown in the solution of constructive problems, which carried them ever further from the rigid simplicity of Greek architecture


Tav II
ORDINE TOSCANO DEL TEMPIO DI GIOVE LAZIALE
C
AB Quantità per alto della pietra tutta d'un pezzo, che forma l'architrave
BC Quantità per alto dell'altra pietra tutta d'un pezzo che forma la cornice
Ambedue questi pezzi rimangono sul monte Albano in cima alla salita per entrare nel Convento de' PP. Passionarj
B
3
F
A
2 Architrave notato nella Tav I con la lett C.
4 Cornice notata nella Tav I con la lett D
1
F G Modanatura e profilo di un altro frammento parimento sul monte Albano sopra il Convento de' PP Passionarj, nel sito detto piazza di Spagna
1, 2 Frantumi della colonna dell'ordine notato nella Tav I con la lett AD. Questi rimangono rovesciati per la ruina della cima del monte verso l'Arricia
G
2
Modulo quattro, dieci oncie ripartito in parti 24
Palmi Romani
D Plinto retondo della base
D
E Pavamento della colonna
E

Tuscan Doric order of the temple of Jupiter Latiaris on Mons Albanus (after Piranesi).

towards the subtler equilibrium of opposing stresses, and their artistic handling of space is perhaps unsurpassed, they failed to grasp the true principle of *decoration*, viz. that it should emphasize and not obscure structural function. It was by strict adherence to this principle that the Greeks attained their unapproachable standard of taste. In every member of a Greek temple the decoration suggests the function and is least elaborate where the strain is greatest. Of course the application of this canon was comparatively easy in a system of architecture which was almost as simple as a child's building of bricks. The conditions are very different when the structure consists of huge masses of rubble and concrete. Again, the Romans entered into the inheritance of Greek artistic forms, and made such use of them as might be under the new conditions. But their tendency was always in the direction of a more extravagant enrichment, which invaded and gradually abolished the plane surfaces in which the eye seeks repose.

We may consider first the treatment of the 'orders' bequeathed to Rome by Greek architecture.

1. The Doric order had already been transformed by the Etruscans, as has been explained above (p. 53). It is this 'Tuscan' Doric (Pl. V) which we generally find in Roman buildings. The proportions of the shaft are slender, and rarely conform to the canon of Vitruvius, who prescribes a height of seven diameters. The mouldings of the base and capital grow more and more elaborate, and enrichments such as the egg-and-tongue or bead-and-reel are introduced. The entablature and cornice show less modification (though the frieze is sometimes omitted). Vitruvius prescribes half-metopes at the angles of the frieze, and we sometimes find a dentil course below the cornice. This order was most commonly used by the Romans in the superposition of columns between arcades, as in the Colosseum and the theatre of Marcellus; but a good example of its substantive use may be seen in the remains of the temple of Jupiter Latiaris on the Mons Albanus (Pl. V). The honorary columns of Trajan and Marcus Aurelius (v. *infra*) trace their descent from the Doric order.

2. The Ionic order is also sparingly represented in Roman architectural remains. The shaft was often unfluted; its height was from eight to nine diameters. The capital often shows four angle-volutes, and these are at an early date enriched with palmette and acanthus foliage[1]: in late examples we even find a head in the centre of the volute. The Corinthian order is by far the most common in Roman temples, and is sumptuously enriched. The shaft is fluted except when materials such as porphyry or granite are used. The richness of the capital is best illustrated by Pl. VI A, which shows an example in the Museo delle Terme and makes further description unnecessary. Still more striking is the wealth of ornament lavished upon the entablature and above all on the

[1] On the significance of this see chap. VII, § 2.

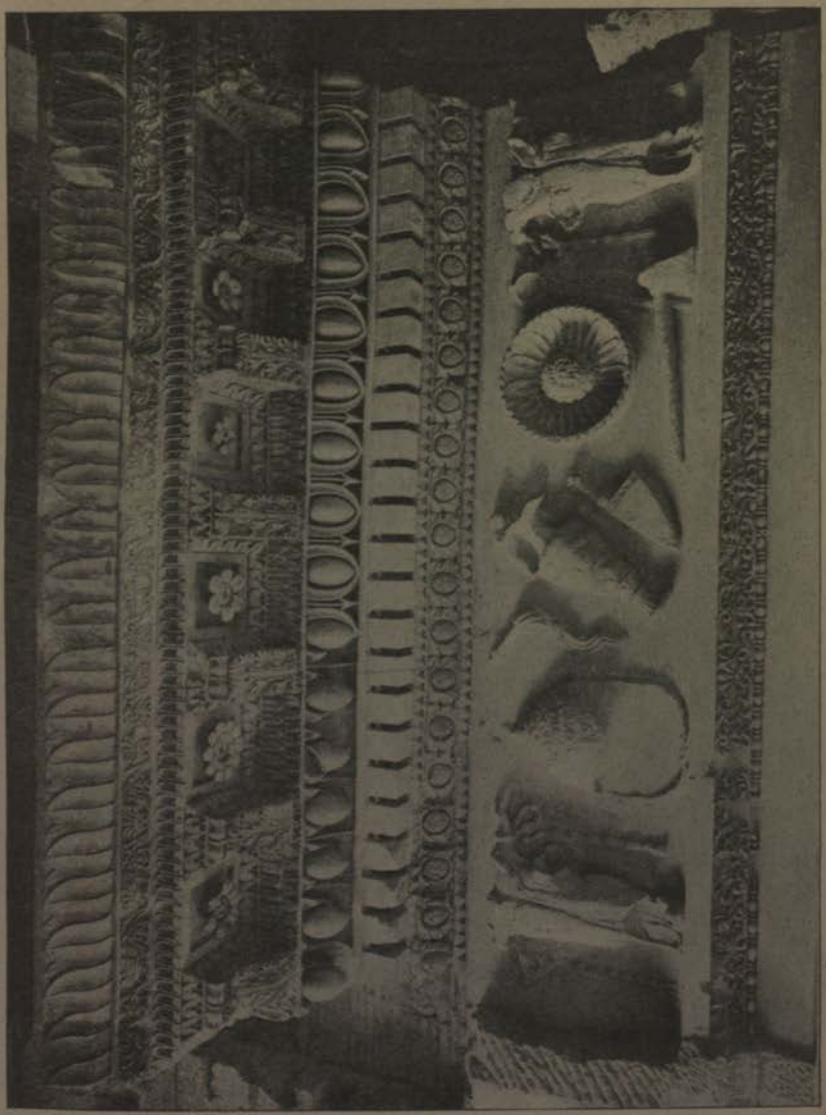
A. Corinthian capital in the Museo delle Terme.

B. Figured capital from the Baths of Caracalla.

cornice, which tended to become heavier as the columns grew lighter. Pl. VII shows the cornice and frieze which belonged to the temple of Vespasian (built about A.D. 80). The corbel-table of 'modillions' or console-brackets immediately below the corona is a characteristic feature.

3. It is usual to speak of the Composite order as a fourth added by the Romans to those created by the Greeks: but it is in reality a variety of the Corinthian, distinguished by its capital, in which Ionic volutes are inserted immediately below the abacus. So far as is known, the earliest example is to be seen in the Arch of Titus, and it was used with special frequency in triumphal arches: a fine example of the whole order, from the Thermae of Diocletian, is shown in Pl. VIII. But the Composite order is by no means the only hybrid architectural form invented by the Romans. The Doric frieze of triglyphs is found over columns of the Ionic order, and is sometimes surmounted by a continuous Ionic frieze, as in the theatre at Arles. The use of figured capitals, which no doubt goes back to Hellenistic times and is found at Pompeii, becomes increasingly common. Those with Victories and trophies now in the Basilica of S. Lorenzo fuori le mura, and a series adorned with statuettes of divinities in the Thermae of Caracalla (cf. Pl. VI B), are amongst the most striking examples. A capital found in the Forum shows a representation of the Black Stone of Emesa brought to Rome by Elagabalus. But the most signal instances of extravagance in ornament are afforded by the columns of Trajan and Marcus Aurelius, to be described later. Columns with spiral flutings were of course familiar in decorative work: it was reserved for the artists of the second century to fill these with a continuous frieze of relief-sculpture. It has already been said that the orders subserved a decorative function when combined with arcading: we have also to note that the Romans often employed free columns e.g. to flank the bays of gateways and triumphal arches; their sole function was to support a projecting block round which the mouldings of the entablature were returned.

We have already spoken of the sumptuous revetments in coloured marble for which every corner of the Empire was ransacked, and shall have to deal in a later chapter with the decorations in painting, mosaic, and stucco which ran riot over every available space. Vaulted ceilings were as a rule articulated with sunken coffers, sometimes carved in stone, as in the Arch of Titus, at other times elaborately moulded in stucco and adorned with bronze rosettes. Fragments of such coffering have fallen from the roof of the Basilica Nova, and may be examined where they lie. This is but one instance of a decoration which has travelled far from its original meaning: it was suggested by the intersection of wooden floor-beams.



Cornice and Entablature of the Temple of Vespasian.

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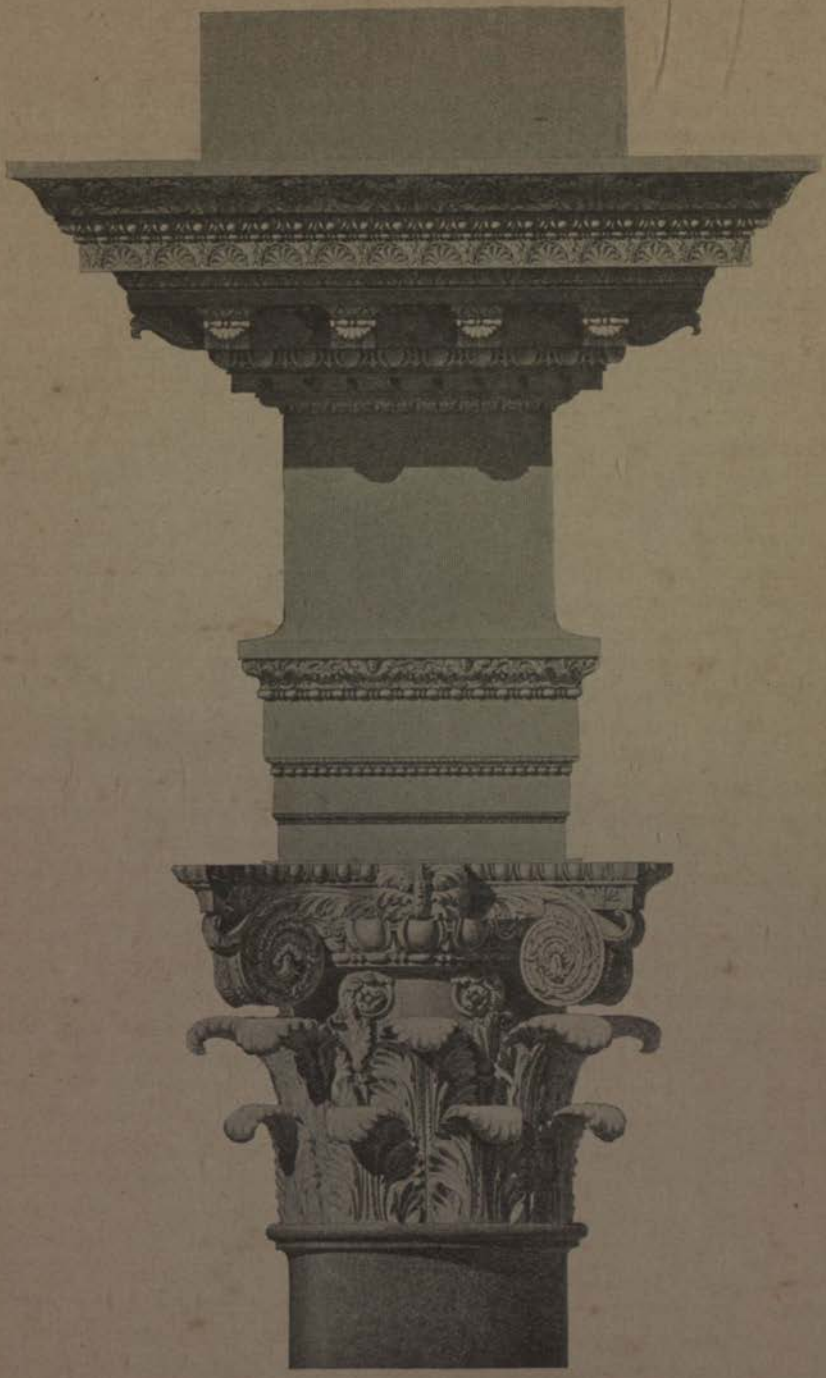
§ 2. Walls, Towers, Gates, and Bridges.

In Chapter I, § 3, mention was made of the lines of wall with which Rome was fortified at different periods. Their extant remains afford examples of the art of fortification as it was practised by the Romans at the beginning and end of their history as a military power.

The circuit of the walls ascribed by tradition to Servius Tullius is shown on the plan of Rome (Map 3) by the inner black line; but they are not the earliest remains of fortification. At the western angle of the Palatine it is easy to distinguish (at more than one point) two lines of wall. The outermost is identical in technique with the 'Servian' walls; the inner line, which is built on an artificial shelf behind which the natural slope of the hill has been cut away and given a slight inward slope, is formed of blocks of soft greenish tufa (*cappellaccio*), possibly quarried on the Palatine itself, irregular in size and shape, but generally speaking smaller than those used in the later fortification. At the angle of the hill a portion of this early wall, together with the later one which stood about $2\frac{1}{2}$ feet in front of it, was encased (under the Empire) in a sheath of concrete which served as a substructure for buildings on the hill, and has thus been preserved intact: this is illustrated by Fig. 7, 32. There are also remains on the Quirinal of a wall built of the volcanic stone known as 'nenfro', which seems to have belonged to a separate fortification of that hill.

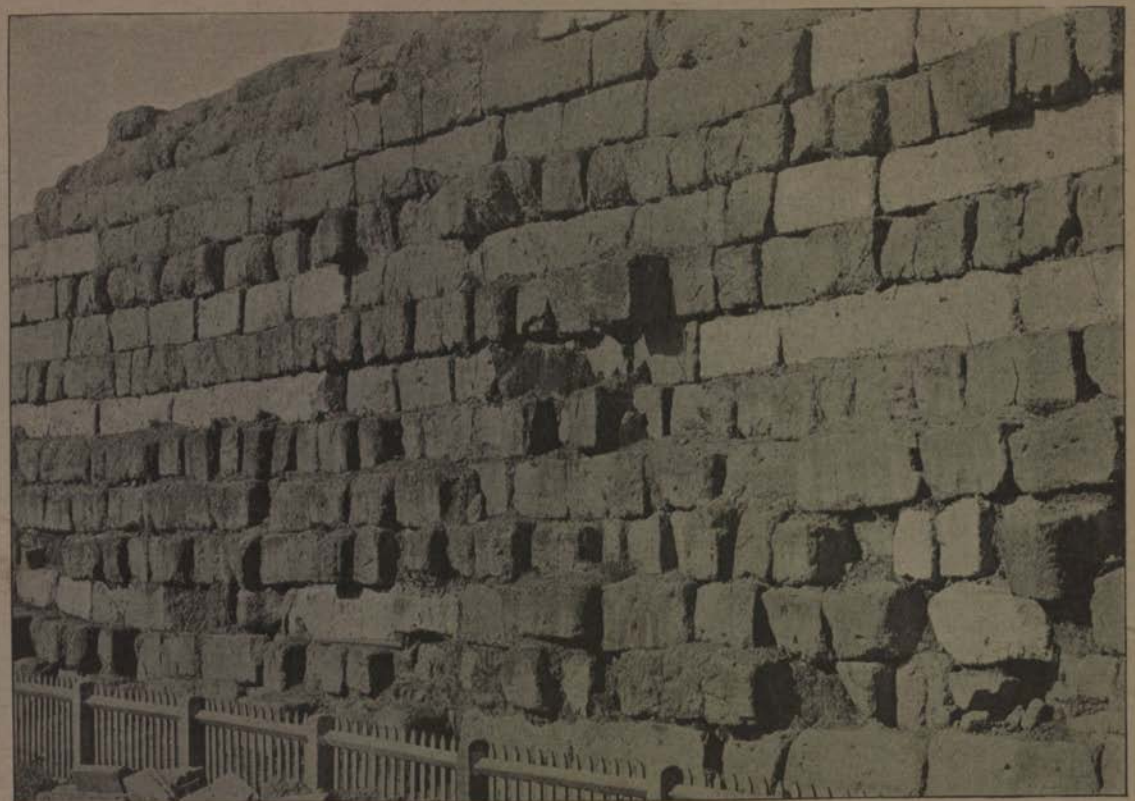
The 'Servian' wall, of which several isolated portions still exist, whilst many others have during the past half-century been discovered only to be destroyed, furnished Rome with a well-conceived and solidly executed system of defences. The circuit included much more than the ancient *pomerium* (p. 30), and took in, as far as possible, all the inhabited area. The line of wall skirted the slopes of the Capitol, Quirinal, Caelian, and Aventine, crossing the depressions between these hills at the narrowest points. Wherever possible, the fortification ran along the face of the cliffs at about two-thirds of their height. This type is best seen in the remains on the Aventine, in the modern Via di Porta S. Paolo. On level ground, however, a much more elaborate system was adopted, consisting in a mound (*agger*) with retaining walls and a ditch on the outside. All weak points were thus strengthened;



Composite Order from the Baths of Diocletian (after Paulin).

but the name of *agger par excellence* was applied to that portion of the wall which traversed the level summit of the Esquiline between the Porta Collina and Porta Esquilina. This is described by Dionysius (ix. 68); and the greater portion of it was laid bare in 1876 and the following years, when the railway station was built and the new quarters laid out. The length (about 1,300 metres) agrees well with the seven stadia assigned to the *agger* by Dionysius. The method of construction was as follows. A trench was dug, thirty Roman feet in depth, and one hundred in width, and with the upcast the embankment was formed. This was supported by retaining walls both on the inside and outside, and the two were bonded together at intervals by cross-walls. The thickness of the outer wall was on the average nearly 4 metres; the total thickness of *agger* and wall 15 metres, and the height probably about the same. The outer wall, the finest extant portion of which is shown on Pl. IX, is built of blocks of dark brown tufa hewn to standard size—two Roman feet square in section, but varying in length, though generally measuring about four Roman feet, so that when laid in courses of headers and stretchers two of the former would range with one of the latter. The inner wall is less regularly built and a softer green variety of tufa is used. Both types of wall are also represented in the portions discovered at various times on the northern slopes of the Quirinal; in the Colonna gardens a section of the outer wall is constructed in the style generally confined to the inner line.

The tradition which ascribed these walls to Servius Tullius cannot be accepted. No argument, indeed, can be drawn from the fact that on the Aventine the Servian wall has a backing of concrete, for this is clearly due to a late restoration of that part of its circuit, when the height of the walls was raised by several courses, and arched openings—one of which is well preserved—were pierced in the upper portion; the retaining wall of the *agger* has likewise been patched in some places with blocks of peperino. But the advanced technique of the original construction is fatal to an early date. The earlier specimens of walling extant in Rome itself (for which see above, p. 53) do not show the regular arrangement of standard blocks which we see in the Servian wall; and the measurements of the temple of Jupiter Capitolinus (which dates from the close of the Regal period) are based on the early Italian foot of 278 mm., whilst in the Servian wall the Roman foot of 296 mm. forms the unit. Moreover, the city walls of Etruria and Central Italy amply illustrate the progress of technique in coursed masonry; and the Servian wall is to be classed, not even with such advanced examples as the fortifications of Volterra, but with the walls of Sutrium, Caere, or Falerii, which may be assigned to the fourth century B.C. Again the alphabetic signs inscribed as mason's marks on the blocks of tufa are as a general rule square in form, and seldom show the acute angles of the early period of writing in Italy. On the Quirinal, moreover, the wall cuts



'Servian' wall of Rome.

through the early cemetery mentioned above. Burial within the city was forbidden, and the necropolis was in use until the fourth century B.C. Finally, historical considerations make it plain that Rome was not provided with an all but impregnable system of defences, such as the Servian wall supplied, until the fourth century B.C. The strategy of the Romans in the Gallic invasion and the disastrous consequences of their defeat on the banks of the Allia would be inexplicable on that hypothesis. And there is no lack of evidence in the pages of ancient writers to prove that the catastrophe of 390 B.C. was followed by the construction of systematic fortifications. We read in Livy (vi. 4) that in 388 B.C. the Capitol was strengthened with a wall of 'squared masonry', a work which compelled the admiration even of the historian's contemporaries, and is numbered by Pliny (*N. H.* xxxvi. 104) amongst the wonders of Rome. It would seem, therefore, that a beginning was made after the retirement of the Gauls by the separate fortification of the Capitol. It seems at least possible that the 'Servian' walls of the Palatine above-mentioned, which (as we saw) cut through a burial-place probably of the fourth century B.C., may belong to about the same time. Ten years later, in 378 B.C., as we are told by Livy (vi. 32), the censors entered into a contract for the building of a wall of squared blocks; and we may see in this a token that the new fortifications were of gradual growth. The better preserved part of the wall on the Esquiline is shown by the breaking of the joints to fall into sections, 120 Roman feet (= one *actus*) in length; each section is characterized by its own series of mason's marks; and the natural inference is that the censors entered into a series of contracts for the building of the several portions.

Strabo speaks of the Servian wall as possessing towers at intervals; but no trace of these remains, and they must in any case be regarded as later additions. An examination of the walls of Pompeii, which are perhaps of the same age as the Servian fortification, shows that *all* the existing towers, which are made of lava rubble coated with stucco, are additions to the original structure of tufa and limestone masonry: they were probably built shortly before the Social War (90 B.C.). So, too, at Cosa in Etruria, the original walls of polygonal masonry were at a later date strengthened with towers of *opus quadratum*.[1]

The sixteen gates by which the Servian walls were pierced have ceased to exist, save for a single archway on the slope of the Quirinal, nearly 2 metres in width, which might perhaps be identified with the Porta Sanqualis (see below). The fortification left the bank of the Tiber immediately to the south of the Forum Holitorium (see Map 3); here was the 'river-gate' (Porta Flumentana), and at the foot of the Capitoline Hill was a second gate, the

[1] Livy xxii. 8, xxv. 7) tells us that 'walls *and* towers' were restored during the Hannibalic War, which may be taken to prove that they were as old as the third century B.C.

Porta Carmentalis. At the north-eastern angle of the hill, the wall crossed a depression through which passed the road connecting the Forum with the Campus Martius, issuing by the Porta Fontinalis. The excavation of the Forum of Trajan (p. 102) has destroyed all trace of the course of the fortification until the western slopes of the Quirinal are reached. Here were three gates—the Porta Sanqualis, Porta Salutaris, and Porta Quirinalis—named after the shrines of Sano Sancus, Salus, and Quirinus, near which they stood. Near the northern angle of the walls was the Porta Collina, whose remains were discovered and destroyed when the Ministry of Finance was built in 1873. Hence issued the Via Salaria (p. 40). The *agger* proper began here, and contained two other gates, the Porta Viminalis, traces of which came to light in 1875 during the building of the goods station, and the Porta Esquilina, now represented by the Arch of Gallienus, from which the roads to Tibur and Praeneste diverged. After crossing a narrow depression the wall ran along the ridge of the Caelian, where it was pierced by the Porta Caelemontana and Porta Querquetulana, of which no traces have been found. Then, descending into the valley to the south of the Palatine, we come to the Porta Capena, from whence issued the Appian Way. Hence, the wall skirts the slopes of the Lesser and Greater Aventine. On the first of these eminences was the Porta Naevia, in the valley which divides them, crossed as usual at its narrowest point by the fortifications, was the Porta Raudusculana, and the Porta Lavernalis is to be placed on the more northerly height. Returning to the Tiber, we come to the last of the gates, the Porta Trigemina at the foot of the Aventine; and from this point onwards the river-bank seems to have had no special defences in the original scheme; but at a later date an embankment of peperino was built, about 8 metres in height, with a landing-step three metres wide.

With the establishment of the *Pax Romana* the need for permanent fortifications became less acute. Roman towns in the newly conquered territories were, however, furnished with walls under the early Empire. An inscription on the gateway of Augustus at Nimes (Nemausus) records the fact that the emperor 'bestowed gates and walls upon the colony': and the remains of fortified defences at Vienne (Vienna) and Autun (Augustodunum) belong to the same period. The evidence of Tacitus, moreover, establishes the fact that (as might be expected) Lyons, Trèves, and Cologne were fortified cities. But the system of frontier defences established by the Flavian emperors and perfected by Trajan and Hadrian (p. 248) seemed adequate for the protection of the settled districts, and the walls of earlier times were suffered to fall into decay. This fancied security received a rude shock when, in A. D. 169, the Marcomanni crossed the Danube and reached the head of the Adriatic, threatening to overrun Italy with their hordes; and such towns as Aquileia, Opitergium (Oderzo), and Salonae were forced to put their crumbling fortifications into a

state of defence. A new and more elaborate system of frontier defences was established by the Severi (p. 251), but from the extinction of their dynasty date the inroads of barbarians which ultimately submerged the Empire. Hence in the latter part of the third century A. D. open cities were in many provinces transformed into fortresses. Several towns of exposed situation or strategic importance were thus fortified under Gallienus (A. D. 253–68), and the building of the walls of Rome by Aurelian (see below) was a patent confession that no city, not even the capital, was safe from attack. Nevertheless sixty cities in Gaul were sacked by German invaders in A. D. 275, and a great number of the existing remains of fortifications belong to the time of Diocletian and Constantine. The haste with which such walls were raised and the poverty of the builders are evidenced by the use of architectural and sculptured fragments drawn from the ruins of earlier buildings and faced with revetments of dressed stone. In general the walls of this period conform to a well-marked type. They rest upon a base of large stone blocks, are built of rubble faced in the lower portion of the wall with *opus quadratum*, and above this with alternate layers of stone and tiles. Such, for example, is the method of construction employed in the walls of Roman London: here fragments of sculpture, e. g. the tombstone of a soldier belonging to the second half of the first century A. D., are found in the base of the wall. It has been stated as a general rule that the area enclosed by these walls is much smaller than that inhabited in early Imperial times. There are clear instances of this: Burdigala (Bordeaux), for example, was reduced to one-third of its previous size, and the perimeter of the early walls of Nîmes is much larger than that of the third-century fortification. On the other hand, the existence of tombs *within* the circuit of the walls of Roman London shows that the area of the city was enlarged.

The walls of Aurelian at Rome are very different from these improvised defences. They embody for us the final result of the science of fortification as it was understood by the ancients. The work was no doubt carried on rapidly, for it was undertaken by Aurelian on his return to Rome in A. D. 271 in view of his approaching departure for the East. But it was not completed until the reign of his successor, Probus (A. D. 280), and the construction shows little sign of haste, save perhaps in the fact that existing walls (such as the great retaining wall of the Pincian) and buildings (e. g. the various aqueducts and the *Amphitheatrum castrense*) were utilized in tracing the *enceinte*, just as the Amphitheatres of Trèves or Tours were incorporated in the defences of those towns. The walls, as we see them at the present day, have undergone restorations at various dates. Honorius in 403 rebuilt the towers and gateways, as we learn from inscriptions immured in three of the latter; and large portions of the wall were rebuilt by the popes, especially from the time of Boniface IX onwards. The original plan may, however, be studied in the section between the Porta

Wall of Aurelian (interior).

Pinciana and Porta Salaria, and in that immediately to the west of the *Amphitheatrum castrense*.

The material of the wall is concrete made with lumps of tufa (together with a few fragments of sculpture, architecture, and inscriptions), and faced with brick in the usual manner. Its mean thickness is somewhat less than 4 metres, and it was bordered by roads 5 metres broad on the inside and 10 metres broad on the outside. There was no ditch ;[1] but the ground level inside the wall is in most parts (though not in all) considerably higher than that outside ; the difference of levels sometimes falls little short of 5 metres. Up to the height of 3·95 metres the wall was massive, but in its upper portion it is traversed by a vaulted sentinel's passage, which opens on the side towards the city with a continuous arcade (Pl. X). Thus the passage is in fact formed by a series of piers acting as buttresses to the outer wall (here reduced to less than one-third of the thickness of the massive plinth), and is also divided into a series of chambers, each of which has a loophole set in a semicircular niche in the outer wall. Above the passage (which was about 6½ metres in height) the wall ended in an open platform, which originally possessed a crenellated parapet now destroyed.

The curtains thus formed contain six chambers each, and are from 28 to 30 metres in length. They are separated by quadrangular towers projecting from 3 to 3½ metres in front of the curtain (Fig. 10). Each tower had two chambers, the lower of which is level with and traversed by the sentinel's passage, while the upper had doorways opening on the platform, and rose from 5 to 7 metres above the wall. Both chambers have loopholes not only in front but at the sides, in order to subject the enemy to a raking fire in case of assault.

This type of fortification corresponds closely enough with that prescribed by ancient theorists, whose doctrine was elaborated in the Hellenistic age. In one important particular, however, Aurelian departed from the rules of art. Vitruvius lays down the principle that no communication should exist between curtains and towers other than by drawbridges, in order that an enemy, if successful in escalading the wall at one point, may be confined to the section immediately occupied.

It was *not* thought necessary to erect such elaborate defences where, as in the case of the Pincio (*Collis Hortorum*) high escarpments were supported by retaining walls with buttresses. Here all that was required was to crown the retaining wall with a parapet and to construct redans at intervals. Similarly the defence of the river-bank consisted in a low, massive wall, with towers at distant intervals and no passage.

Gateways.—The existing gateways of Roman date display a great variety of types, which cannot here be illustrated. The

[1] A ditch was commenced by Maxentius in 312 and completed by Belisarius in 536. It was afterwards filled up.

essential features of a defensible gateway were the inner and outer entrances, the *propugnaculum*, or vantage-court enclosed between them, and the flanking towers on either side. These last, however, are not found where the gateway merely served as a monumental entrance to the city; thus the Herculanean gate at Pompeii, which has a large central archway for wheeled traffic, and two

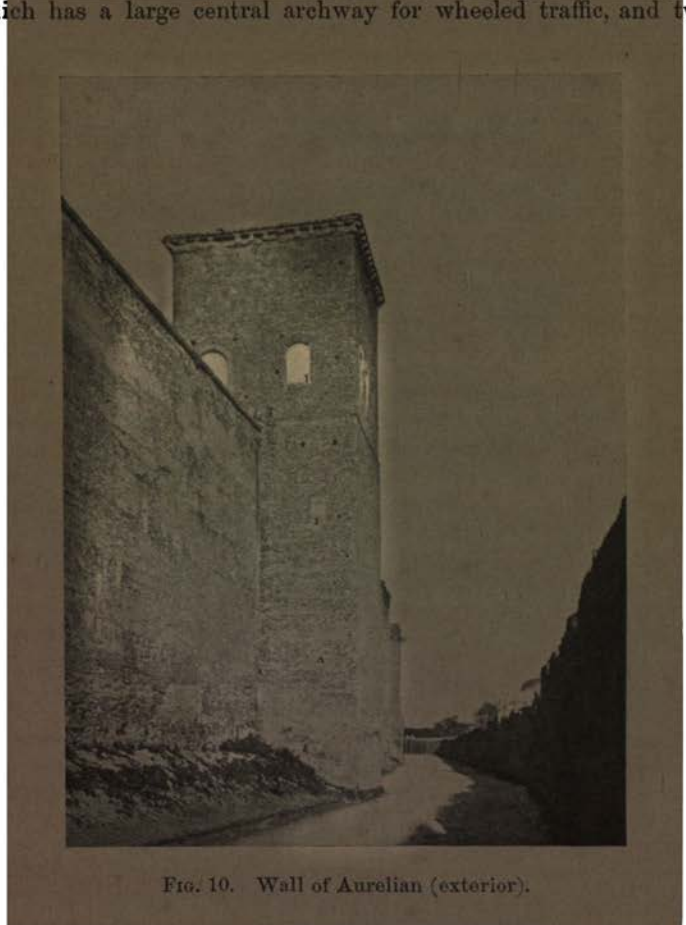


FIG. 10. Wall of Aurelian (exterior).

smaller side-passages for pedestrians, though it apparently had a vantage-court, possessed no flanking towers. The better preserved gates of the Aurelian wall at Rome, which owe their present form to the restoration of Honorius (p. 72), have single archways and flanking towers, as a rule semicircular in shape; the Porta Tiburtina has six, the Porta Appia five windows over the central archway. Here there are no vantage-courts; but the finer examples of Italy and the provinces are more elaborate in their structure.

In the regularly planned *coloniae* there were as a rule four gateways corresponding to those of the camp (p. 226), and of these the *porta praetoria* and *p. decumana* at the extremities of the *decumanus* were the most important. This is not so at Turin, where all four gates were of the same plan, with two large bays for vehicles and two side-passages for foot-passengers; the 'Porta Palatina', which was turned into a fortress in mediaeval times and thus preserved, is now being restored as far as possible to its ancient condition. It had a double row of arcaded galleries over the entrances, and polygonal flanking towers with sixteen faces. It is made of brick-faced concrete. At Aosta, on the other hand, the side gates had but a single archway, whilst the Porta Praetoria, which is in fairly good preservation, had a large central bay with two small side bays, a large central court and square flanking towers of two stories. It is built of large blocks of stone faced with a thin marble revetment. The 'Gateway of Augustus' at Nîmes (cf. p. 71) is of the same type as the Porta Palatina at Turin (though smaller), and so is the well-preserved 'Porte St. André' at Autun (Augustodunum). But the finest of all Roman gateways is that known as the 'Porta Nigra' at Trèves (Pl. XI). Here we find a double archway for incoming and outgoing traffic, surmounted by arcaded galleries, and two flanking towers whose outline is rectangular on the inside and semicircular on the outside, where they project considerably from the line of the city-wall. The upper floors of these towers are likewise arcaded, and the westernmost tower is preserved to its full height of three stories. Several dates, ranging from July 28 to August 7, are inscribed on the blocks of the uppermost story, which must have been completed in great haste; the stones still bear their quarry-marks, and all the mouldings were executed when the blocks were *in situ*. The gateway belongs to the same period as the walls of the tower, which have been shown to date from about A.D. 260. For the purposes of defence the value of the gateway is impaired by the wide openings of the arcades, which so greatly enhance its artistic effect. It may be noted that a small model of a monumental gateway with three principal and two smaller bays and arcaded flanking towers has recently been discovered at Dunapentele (Intercisa) on the Danube. The designer has scratched on the clay *Ilarus fec|it porta fel(iciter)*.

Bridges. The history of Roman bridge-building begins with the construction of the *Pons Sublicius*, or 'bridge of piles' (*sublicae*), attributed by tradition to Ancus Martius, which for several centuries formed the only connexion between Rome and the right bank of the Tiber. This was often restored, but in accordance with an inviolable tradition, no material save wood was used; even iron was forbidden, and from this fact it has been argued that the bridge was first built in the bronze age. It is more likely that the prohibition had for its original purpose ease of destruction in case of attack from the north. All traces of this

The 'Porta Nigra' at Trier.

PLATE XI

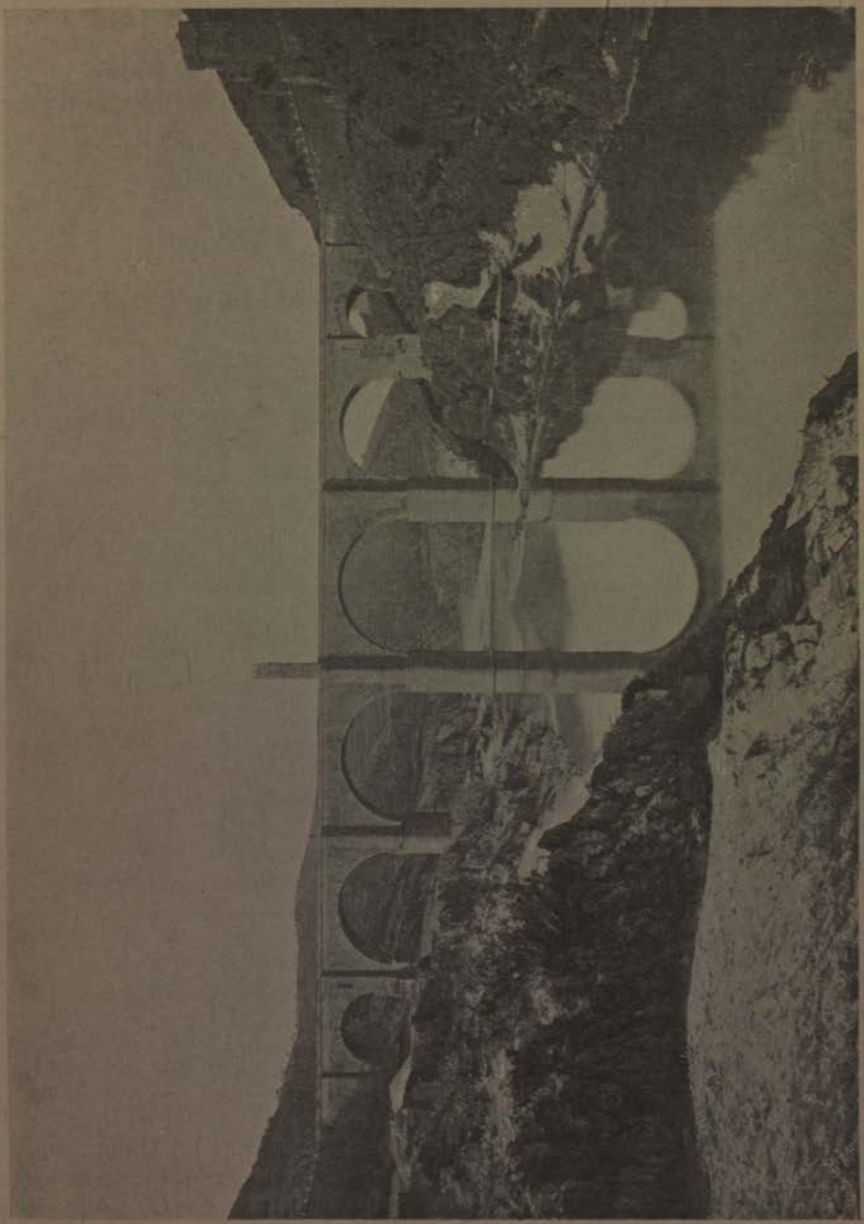
bridge have been lost, and its site has been a matter of dispute; it is probable, however, that it abutted on the Forum Boarium.

A wooden bridge connecting the island in the Tiber with the left bank was doubtless built at an early date, and in Livy's account of the events of 192 B.C. we hear of the 'two bridges' between which the island lay. The Tiber, too, must have been spanned by the Pons Mulvius (Ponte Molle) when the Via Flaminia was laid (220 B.C.), and the bridge which carries the Via Salaria across the Anio also goes back to an early period. But we have no evidence that *stone* bridges were built in or near Rome before the second century B.C., when the Pons Aemilius was constructed (by the censors of 179 B.C.) just above the Pons Sublicius. At first this consisted of stone piers supporting a wooden superstructure, but in 142 B.C. it was completed in stone, and in later times bore the name of Pons Lapideus as the earliest structure of the kind. It was partly carried away by a flood in 1598, and thenceforward known as Ponte Rotto. In 109 B.C. the Pons Mulvius was rebuilt in stone by the censor M. Aemilius Scaurus: the four central arches, made of peperino with travertine facing, are incorporated in the modern bridge.

In the last century of the Republic the wooden bridge connecting the island with the banks of the Tiber were replaced by stone structures—the Pons Fabricius, built in 62 B.C. and restored in 21 B.C., and the Pons Cestius, rebuilt in A.D. 370. The first-named is well preserved; it is made of tufa and peperino faced with travertine, and has two main arches and an arched opening for flood-water in the central pier. The parapet was adorned with four-headed Hermae, two of which are extant and give the bridge its name of Ponte dei quattro capi.

Under the Empire five (if not six) bridges were added to those already existing. The first, built by Agrippa, was destroyed at some unknown date, and its very existence was forgotten until an inscription discovered in 1877 gave its name, while the remains of its sunken piers, about 100 m. above Ponte Sisto, came to light ten years later. Nero built a bridge, which bore his name, to give access to his gardens in the Vatican region; remains of its piers still exist, but the superstructure was soon destroyed, since its place was taken by the Pons Aelius (Ponte S. Angelo), built by Hadrian about 100 m. higher up the river opposite his mausoleum, and completed in A.D. 134. When the new embankment was made (in 1892) the ends of this bridge were rebuilt, and the excavations showed that, as originally planned, it had three main arches in the centre (which are still in use), approached by a slope from either bank, with three smaller arches on the left, and two on the right. The arches are built of peperino with travertine facing; the roadway, exposed for a length of 40 metres in 1892, was paved with polygonal blocks of *silex* in the usual manner and had travertine *crepidines*.

In the fourth-century guide-books we find mention of a Pons Aurelius (called in the Middle Ages Pons Antonini), which is



Roman bridge over the Tagus at Alcantara.

represented by the modern Ponte Sisto. Fragments found in 1878 prove that it was restored by Valentinian I in A. D. 365-6, and had a triumphal arch at its eastern end; but its name shows that it was originally built by one of the emperors who bore the names Aurelius Antoninus. Finally, we find in the *Notitia* a 'Pons Probi', of which we know nothing further: it is natural to suppose (1) that it was the work of the Emperor Probus (A. D. 276–80), and (2) that it was superseded by the Pons Theodosii of the mediaeval guide-books, the building of which is described in the letters of Symmachus (A. D. 381–7). This was the farthest down stream of the Roman bridges, starting from a point under the Aventine near the Emporium (p. 325): it was finally destroyed in 1484, but the bases of its piers exist.

The Roman bridges in Italy for the most part belong to the period of the Empire, especially to that of Augustus, who repaired the roads of the peninsula. The most perfectly preserved is that of Ariminum (Rimini), the terminus of the Via Flaminia, built in A. D. 14–20, with its five low and massive arches and rich decoration; its piers have niches with architraves and pediments, and the parapet is adorned with a cornice and corbels. In striking contrast with this is the bridge on which the Via Flaminia was carried over the Nar at Narnia (Narni), the central arch of which (now fallen) was over ninety feet high, the total length of the bridge being nearly 440 ft. It has been pointed out that the masonry of the piers is laid in courses of headers and stretchers, according to the practice of the Republican and early Augustan periods in Rome, whilst the upper portion of the bridge is constructed in the usual style of the early Empire; perhaps, therefore, the piers belong to a reconstruction of the original bridge about the time of Sulla.

Almost every province of the Roman Empire furnishes fine examples of the massive stone bridges erected in the early Imperial period: the most imposing is that which spans the Tagus at Alcantara (Pl. XII). In the centre of this bridge the roadway passes under a triumphal arch, about 13 m. in height, bearing an inscription of the year A. D. 106 in honour of Trajan, as well as others which record the name of the Lusitanian towns by whose contributions the expense of the building was defrayed, and that of the architect, C. Julius Lacer. The bridge, which is built of granite, is 54 m. in height and 5 m. in width; the two central arches have a span of 34 and 36 m. It is to be noted that, according to the usual Roman practice (1) the points from which the semicircular arches spring are so disposed that the soffits are all at the same height; (2) the piers are furnished with acute-angled cutwaters in order to break the force of the stream; (3) there are slight projections at the springing of the arches in order to support the centering. The triumphal arch in the centre of the bridge has a parallel at Saintes; at other times we find two such arches at the extremities of the bridges, as at St. Chamas.

Beside these imposing and wellnigh indestructible bridges of

Trajan's bridge over the Danube.

stone, there were others in which timber played an important part; these have ceased to exist, but we know something as to their construction. It was mentioned above that the Pons Aemilius at Rome originally consisted of stone piers bearing a wooden superstructure; and this was the type adopted by the Romans in bridging the Rhine and Danube. Under the first dynasty the Rhine was probably crossed only by pontoons, or at most by wooden bridges: but the stone bridge at Mainz, represented with its fortified *têtes-de-pont* on a leaden medallion of Diocletian and Maximian, seems to date from the Flavian period; tile-stamps of the fourteenth and twenty-second legions have been found in the remains of its foundations. All that now exists consists of massive oaken piles connected with a framework of boards, which, when filled with rubble, formed a base for the stone piers. These again carried a wooden superstructure which we may picture to ourselves after the fashion of Trajan's bridge over the Danube, built in A. D. 105–6 and represented on his column (Pl. XIII). It will be seen that the roadway (with its wooden parapet) was carried on threefold arched trusses bound together with cross-pieces and supported by struts abutting on the tops of the stone piers. The artist has, however, omitted the upper part of the struts which converge towards the centre. It is also to be noted that the form of the wooden arches is segmental, and that the bridge is therefore lower than the stone structures with semicircular arches described above. The height of this bridge has been estimated at not less than 20 metres; its length was about 1,120 metres and its piers from 21 to 22 m. in length and 13–19 metres in breadth. The span of the arches reached 38 m. in some instances. The pier foundations may be seen when the river is low; they are of concrete with stone-facing, and like those of the Rhine bridges, rested on oak piles.[1] The architect was Apollodorus of Damascus (cf. p. 102).

Caesar (*B.G.* iv. 17) has given us a well-known description of the trestle bridge which he threw across the Rhine in 55 B. C. Unfortunately it is not free from serious obscurities, and as no reconstruction which has so far been attempted commands general acceptance, it must suffice to explain the method of its erection so far as this is certain and to indicate the points of difficulty. Piles $1\frac{1}{2}$ feet square in section, sharpened at the lower ends, were joined together in couples by cross-pieces 2 feet in length. The length of the piles is not given: they were measured to suit the depth of the river, which has been estimated at 16 feet. Two rows of such couples were then driven by pile-drivers into the bed of the river at a distance of 40 feet apart: Caesar does not tell us whether the 40 feet was measured along the bed of the river or the surface of the water or again from the head of each couple to that placed opposite to it: and this is an important question,

[1] In the foundations of the Pons Cestius (v. *supra*), which were demolished in 1888–92 when the new Tiber embankment was made, a concrete case was enclosed by a double row of piles.

since the piles were not driven perpendicularly, but sloped in convergent directions. The trestles were then completed by the laying of 2-feet beams crosswise from couple to couple, and further by *fibulae* ('fasteners' or 'braces') which according to Caesar 'held apart' the piles; these being thus 'kept open and tied back' formed a perfectly rigid structure. It seems to follow from Caesar's words that the *fibulae* performed the function of ties, not struts: and Mr. Kitson Clark's suggestion (*Classical Review*, 1908, p. 144) that they were disposed as in the annexed sketch (*aa* and *bb*) has much to commend it. The roadway was formed by planks laid on the trestles and covered with spars and hurdles. Piles were also driven into the river bed both above and below the bridge: the object of the first row was to prevent the enemy from injuring the bridge by floating tree-trunks, &c., down stream; that

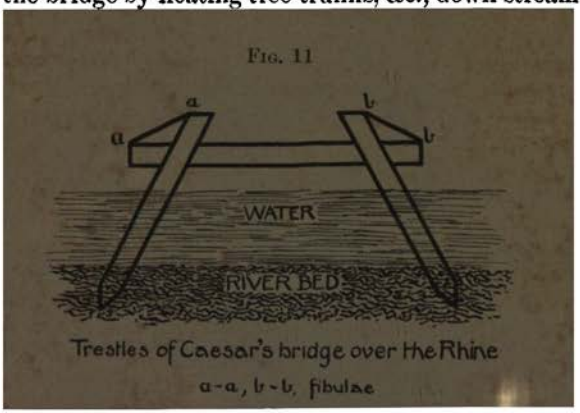


FIG. 11

Trestles of Caesar's bridge over the Rhine

a-a, b-b, fibulae

of the second, as Caesar expressly tells us, to buttress the structure. It is not clear how this was effected, nor what Caesar means when he tells us that the buttress-piles were driven *oblique*.

It remains to mention the pontoon-bridges used by the Romans in military operations. Such a bridge is shown on Trajan's column, and formed the only permanent means of communication between the right and left banks of the Danube in the first Dacian War (A. D. 101–3). The pontoons have gangways laid transversely upon them, but we do not see the means by which they are kept in position. Arrian (*Anab.* v. 7) describes the method by which such bridges were built. The ships forming the pontoon were allowed to drift stern foremost into their assigned stations, where they were held up by galleys rowing against the stream while they were moored by means of baskets full of stones lowered from the stem. Then planks were laid from ship to ship, and a flooring was built thereon for the causeway.

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§ 3. Temples.

In a preceding section (p. 53) the differences in plan between Greek and Etruscan temples were explained. Vitruvius (iv. 7) gives a full account of the proportions of the Etruscan temple, which he probably derived not so much from literary sources, since he mentions none in his list of authorities (vii. Praef. 11), as from the study of extant examples, such as the temple of Ceres, Liber, and Libera in the Circus Maximus, dedicated in 493 B.C. The length of such a temple stands to its breadth in the proportion of 6 : 5, and the area is divided into two equal halves (*anticum* and *posticum*); the front half is occupied by a portico, the back half by the temple proper, consisting in three parallel *cellae*, whose breadths are in the proportion 3 : 4 : 3. The same proportions were observed if open side-wings (*alae*) were substituted for the lateral *cellae*. The portico consists of two rows of columns, ranging with the side-walls of the *cellae*: these divide the portico into two equal halves.

The triple temple of Jupiter, Juno, and Minerva on the Capitol belongs to the 'Tuscan' class, though its proportions do not correspond precisely with those found in his text. The plan may be restored with approximate accuracy from the foundations which have at different times been exposed to view in the gardens of the Palazzo Caffarelli, and is here given (Fig. 12) according to Wiegand's reconstruction. The ratio of breadth to depth (5 : 6) is observed if we include the flight of steps by which the temple is approached. The temple is colonnaded on three sides, a disposition often found in Etruria and Latium. This monument of Etruscan rule in Rome became the prototype of a number of *Capitolia* which were set up in the cities of Roman foundation, Italy and the West. So far as we know, the right of erecting such a *Capitolium* was (until quite late times) reserved for Roman *coloniae*; and it is a highly probable assumption that the name implied the worship of the same triad of divinities as in Rome itself. The remains of the *Capitolium* of Timgad (chap. I, § 2) show that as late as the second half of the fourth century the temple was restored on a scale of lavish magnificence by Ceionius Caecina Albinus, one of the latest and most strenuous champions of the national faith.[1]

[1] We are not to suppose that the plan of the Capitolium at Rome was always reproduced. At Brixia (Brescia) the Capitolium is to be recognized in

The temple, which was approached by a flight of thirty steps, measured about 50 metres by 20; its columns were 12 metres in height and 1·50 in diameter; and many varieties of coloured marbles were used in its decoration.

The Capitoline temple is, however, the only example of purely Tuscan type in Rome. From the south a stream of Greek influence flowed with ever-increasing strength, and the earliest result of this meeting of styles was the formation of a type to which both contributed. The plan of such a temple is oblong, the length being, according to Vitruvius's canon, double of the breadth, and the columns are no longer widely spaced (*araeostyle*), but set at

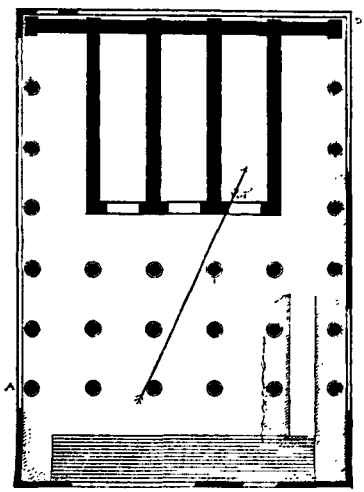


FIG. 12. Plan of Temple of Jupiter Capitolinus.

narrow intervals (*pycnostyle*). In these respects the Greek model is followed. On the other hand, the temple is raised on a high *podium*, and approached only by a flight of steps in front, and it is *prostyle*, i. e. it has a portico in front of the *cella*, which, though not as deep as in the Tuscan type, occupies one-third or more of the ground-plan.

Vitruvius mentions (iv. 8, 4) that the rectangular temple was sometimes built with a broad front and narrow sides. This disposition we find in the temple of Concord overlooking the Forum (cf. Map 5), rebuilt in A. D. 10. The *cella*, which measures about 150 ft. by 75, has a hexastyle portico in the middle of its broad side, approached by a flight of steps. It has been suggested that this peculiar form was chosen because of the narrow space avail-

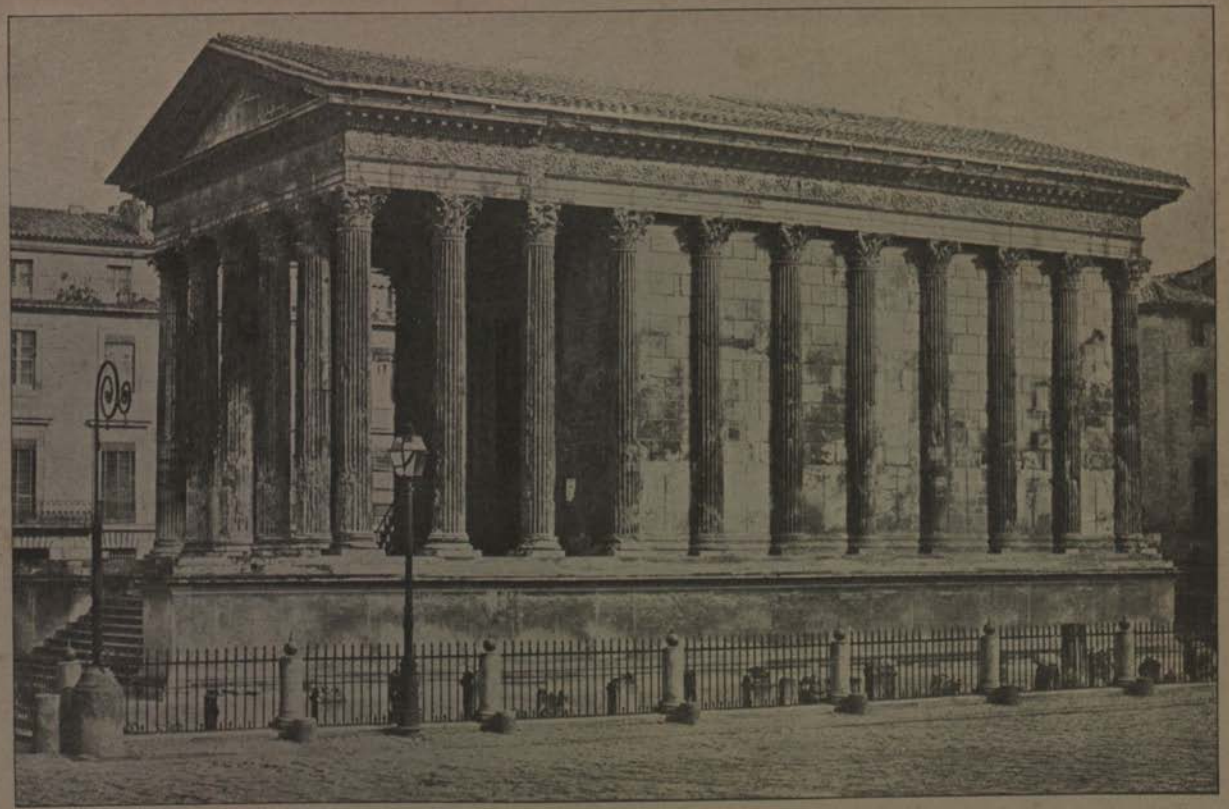
the temple with three *cellae* opening on a narrow *porticus* with a central projection. At Sufetula (Sbeitla) in Numidia was an enclosure containing three temples separated by vaulted passages (dated A.D. 139).

able. The building probably identified with the *Templum Divi Augusti* (Map 5) has a *cella* whose breadth is somewhat greater than its depth (32 × 28 metres): the remains point to a portico of six columns between *antae*, whose roof was lower than that of the *cella*.

In the second century A.D., under the rule of Hadrian, the Imperial architects returned to classical models, and the finest examples of Imperial temple-building are therefore scarcely to be called specifically Roman in style. Two of these are worthy of special mention. Hadrian, who was himself an architect of considerable ingenuity, though of doubtful taste, caused to be erected after his own plans a double temple of Venus and Rome (Plan, Fig. 13) at the summit of the Sacred Way: it has been supposed that the Arch of Titus was removed to its present site in order to make room for the building. The temple was dedicated on April 21—the birthday of Rome—in A.D. 135. An immense artificial platform of concrete, 145 metres in length by 100 metres in breadth, was first constructed. The longer sides of this carried porticoes with columns of granite and porphyry. In the centre of the platform rose the double temple, built of brickwork faced with marble blocks, and approached on all sides by a flight of steps. It was surrounded by a decastyle colonnade, whose columns were of Pentelic marble and consisted of two *cellae*, each with a front of four columns *in antis*, built back to back (Plan, Fig. 13). The interior side walls were broken by niches alternately semicircular and rectangular in plan, between which were monolithic columns of porphyry and granite, while the seated images of Venus and Rome occupied apsidal niches facing the entrances. The temples were roofed with richly coffered barrel vaults.[1]

The scheme of the Vitruvian temple may be observed in some extant examples more or less preserved, such as the temples of Saturn, and of Antoninus and Faustina, in the Forum; those of Vespasian and of Magna Mater on the Palatine likewise retained its essential features. But the severity of its outline was very often tempered by the addition of pilasters, engaged columns or a peristyle. The *cella* with pilasters is more common in sepulchral monuments such as those described and figured in § 11 than in temples proper; the so-called 'temple of Hercules' at Cora has three pilasters on either side wall of the *cella* (exclusive of the corner-pilasters provided for in the Vitruvian scheme), and a provincial example of the second century A.D. may be found at Theveste in Africa. For the pilasters engaged half-columns are substituted in the temple adjoining the Forum Boarium, now S. Maria Egiziaca (back view, Pl. XV), which has been dated as early as the third century B.C., but has been recently assigned to the Sullan or even to a later period. Another instance is the so-called 'Temple of Tiburtus' at Tivoli, and a more famous example

[1] Hadrian also completed the great temple of Olympian Zeus at Athens, commenced by Antiochus Epiphanes in 174 B.C.



The 'Maison Carrée' at Nimes.

is shown (Pl. XIV) in the 'Maison Carrée' at Nimes. Such buildings are in ancient terminology called pseudo-peripteral. Finally,

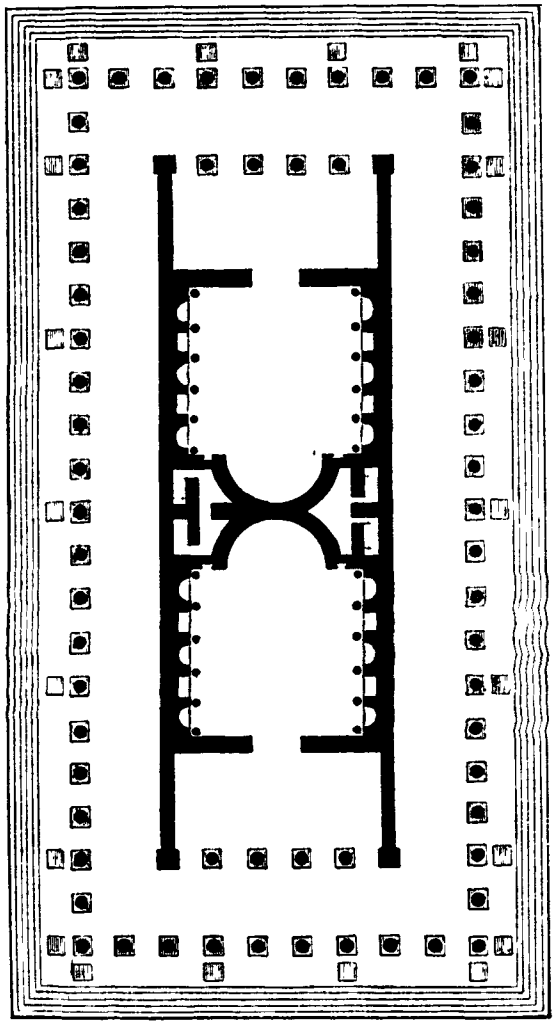


FIG. 13. Plan of Temple of Venus and Rome.

the Roman temple, together with its portico, was often surrounded with a peristyle. Of the three temples in the Forum Holitorium, (p. 34) two are completely peripteral (to use the ancient term), the third has columns on three sides only, the back wall having side-wings meeting the colonnade. In the temple of Apollo at

Pompeii the portico proper to the Italic temple is omitted, or absorbed into the simple peristyle.

The temple of Venus and Rome was, however, dwarfed by the colossal temple at Baalbek, dedicated to Jupiter Heliopolitanus, the local divinity of Heliopolis. The recent German excavations have thrown much light on the temple and its surroundings (Fig. 14). The approach to the temple was gradual. First came a flight of stone steps leading to propylaea, consisting in a deep portico flanked by towers. In the centre of this was a gateway with a large central and two side bays, leading into a hexagonal forecourt, surrounded by a portico on to which open four rectangular halls. A second gateway, also with three bays, gives entrance to a large square court with colonnade and exedrae symmetrically disposed. In the centre of this court stood a huge altar of burnt-offering (afterwards buried beneath the floor of a Christian basilica), on either side of which were tanks for purification. On the western side of the court a flight of steps led to the great temple, raised upon an artificial terrace 13·59 m. in height. It was 87·75 m. in length (without the stairway) and 47·70 m. in breadth. The *cella* with its portico was surrounded by a colonnade of 19×10 columns, whose depth would allow of an inner colonnade (pseudodipteral). The temple seems to have been begun in the reign of Antoninus Pius (A. D. 138–61), but the courts and propylaea were apparently not completed before the time of Caracalla (A.D. 203–7). Beside it (Fig. 14) stands (at a lower level) a smaller temple which was long supposed to be that of Jupiter, but has been proved to have been dedicated to Bacchus: its interest lies partly in its fine wall decoration, partly in the presence of an inner sanctuary (*adyton*) or Holy of Holies, which contained the statue of the god.

A characteristic product of Roman architecture is the circular temple, the origin of which has been traced to the primitive Italian hut. The prototype of such buildings in Rome was the Temple of Vesta (Map 5) which contained the public hearth of the Roman people, together with the Palladium and other symbols of Rome's origin. This was several times destroyed by fire and restored, always in circular form: in its extant foundations the work of various periods may be distinguished, but none of Republican date. The existing architectural fragments belong to the final restoration carried out by Septimius Severus and Julia Domna after the great fire under Commodus (A. D. 191): with the aid of these, and the evidence of coin types and a relief in Florence, we can reconstruct the temple with its Corinthian peristyle, whose openings were closed by bronze lattice-work: it stood on a low podium, two metres in height, and was approached by a flight of steps on the east. Almost in the centre was a deep pit or *favissa*, which contained the ashes of the sacred hearth and was cleaned out only on the 15th of June. Another early sanctuary of circular form was the shrine of Cloacina, the goddess of sewers,

the foundations of which have been discovered on the edge of the road which skirts the north-east side of the Forum. The evidence of coins shows that this consisted simply in a circular base with a railing enclosing two female statues. The most famous of all extant round temples is that which still stands in the Forum

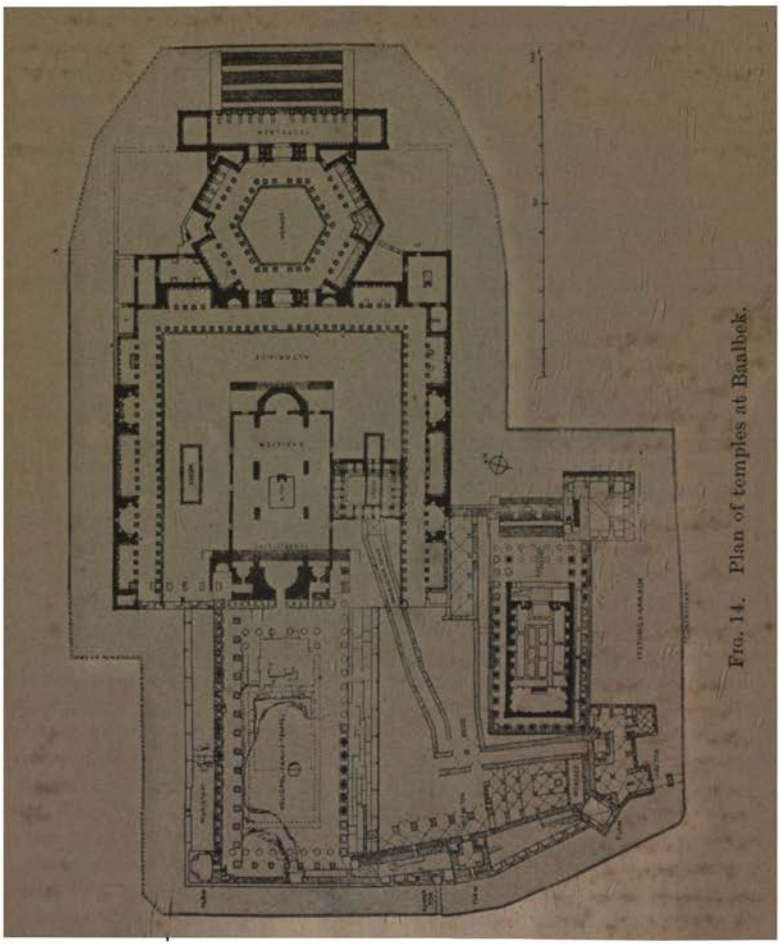
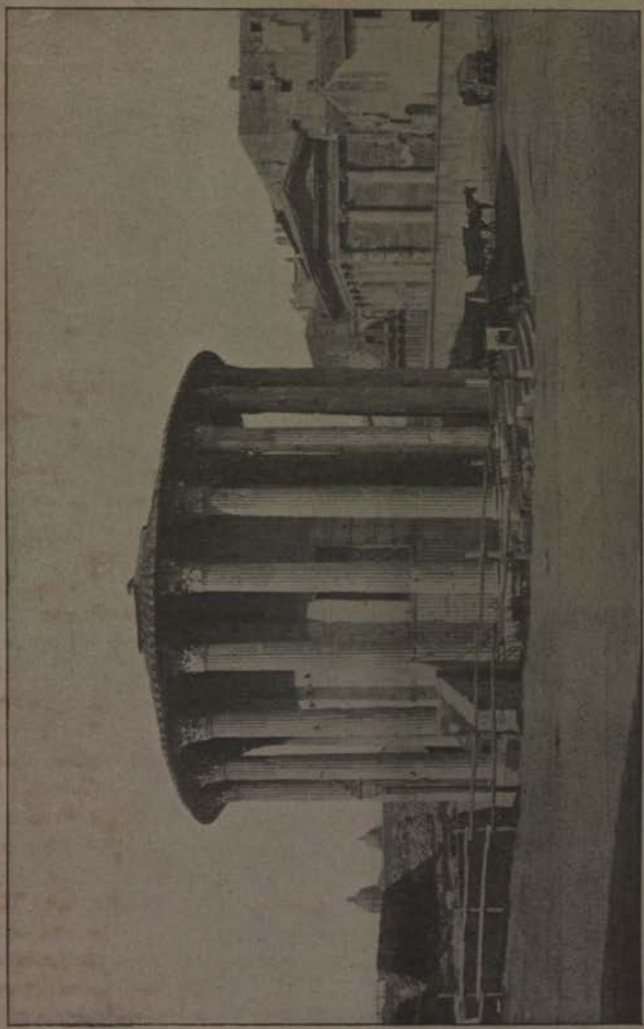


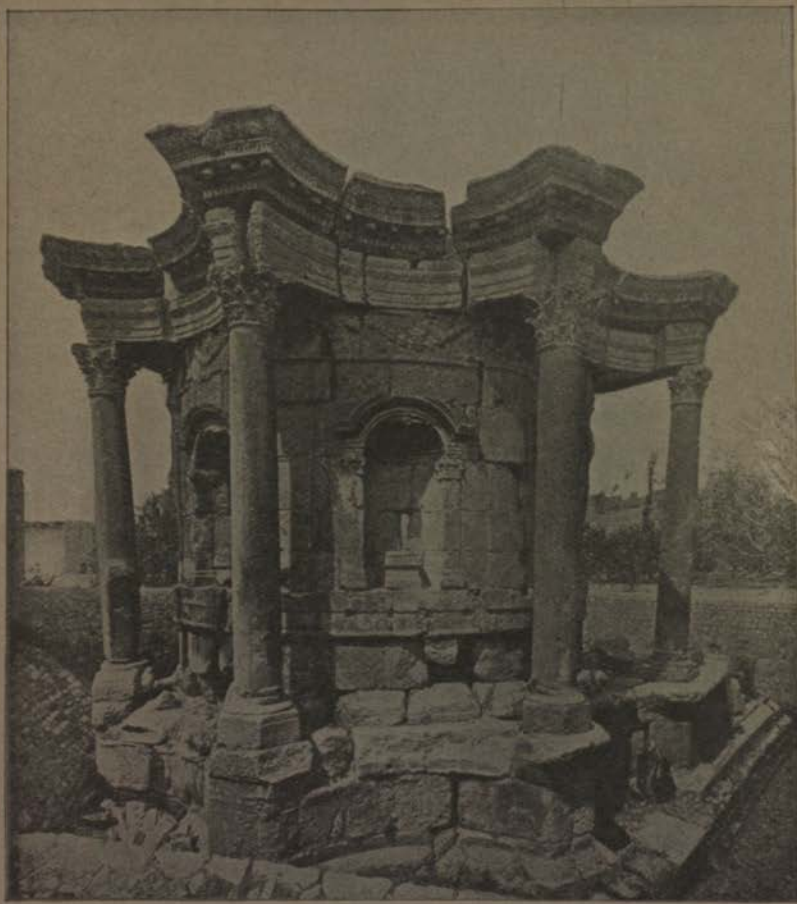
FIG. 14. Plan of temples at Baalbek.

Boarium, long miscalled the Temple of Vesta (Pl. XV). It may be identified either with the sanctuary of Portunus—the god of the harbour—or with that of Mater Matuta. The podium of tufa (faced with travertine) seems to be of early date: the *cella* and peristyle of twenty Corinthian columns, which are of marble, may belong to the second century B.C. The interior was stuccoed and doubtless painted in fresco; we are told that the circular



Circular temple in the Forum Boarium.

temple of Hercules Invictus, which also stood in the Forum Boarium, contained paintings by the poet Pacuvius, executed for the restoration of the temple by Aemilius Paulus, the victor of Pydna (168 B.C.). The remains of this latter building were discovered in the pontificate of Sixtus IV (1471–84) and drawn by Baldassarre Peruzzi. The circular temple at Tivoli, which bears an inscription of the Sullan epoch, resembles in its architectural forms the buildings of the 'Tufa period' at Pompeii (p. 24). Amongst the circular buildings of Imperial times it will suffice to mention the temple of Augustus on the Acropolis of Athens, the round temple at Baalbek (Pl. XVI), to be dated *circ.* A.D. 200, which is noteworthy by reason of its tetrastyle portico, the pentagonal bases and capitals of its Corinthian columns, and its curved architraves—a fantastic experiment—and the Pantheon of Hadrian (Fig. 15). The problems to which this building has given rise must here be treated briefly. It will be seen from the plan that the Pantheon consists of a rotunda, a vestibule flanked by semicircular niches, and a portico. The rotunda is formed by a drum whose walls are 6·2 metres thick and 21·75 metres in height, supporting a cupola. The total height of the building is the same as its diameter (150 feet). There are no windows, but a circular opening 30 feet in diameter at the summit of the dome admits light. In the walls of the drum are seven niches, rectangular and semicircular, in front of which are Corinthian columns supporting the entablature which runs round the building. The walls of the drum were richly decorated with coloured marbles, some fragments of which were still preserved in the eighteenth century, and the coffered ceiling of the dome was gilded. The exterior, which has three cornices at intervals, has likewise been stripped of its facing of marble and the roof of its tiles of gilded bronze. The foundations of the rotunda are of concrete, enclosed by a ring of *opus reticulatum*, and its walls are of brickfaced concrete with a very elaborate system of relieving arches of brick extending throughout their thickness, which, however, ceased to perform any structural function when the concrete was finally set. The vestibule is organically connected with the rotunda, and its structure and foundations are similar: there can be no doubt that it belongs to the same period. The portico, however, which consists of three rows of columns of red and grey granite with white marble capitals, supporting an entablature and pediment, has no connexion with the rotunda. The architrave bears the inscription M. AGRIPPA L. F. COS. TERTIUM FECIT, and a second inscription which records that Septimius Severus and Caracalla 'restored the Pantheon'. Hence it was long supposed that the building was the Pantheon of Agrippa, erected in honour of the Julian house and its guardian divinities. This was, however, destroyed by fire under Titus and restored by Domitian, whose building was again burnt under Trajan and restored by Hadrian: and a thorough investigation of the rotunda, made in 1892–3, showed that it was



Circular temple at Baalbek.

not earlier than the reign of the last-named emperor.[1] We know that Hadrian left the original inscriptions on all buildings restored

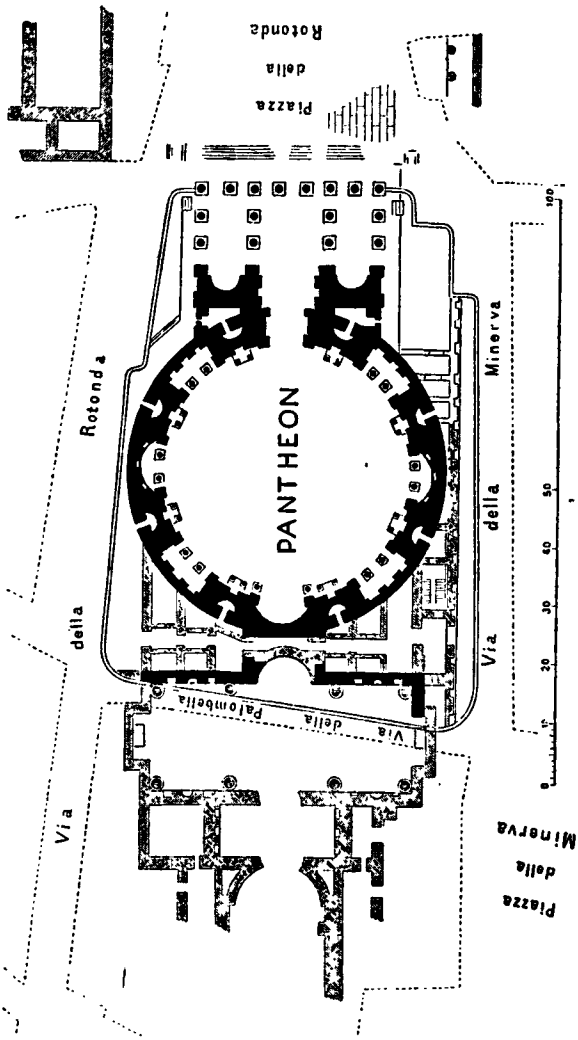


FIG. 15. Plan of the Pantheon.

by him, and this accounts for the presence of Agrippa's name on the portico: but excavation has shown that while the two back rows of columns rest on foundations of Hadrian's time, the front

[1] Tiles were found in several parts of the building bearing dates ranging from A. D. 120 to 124.

row which carries the entablature and pediment is supported by a wall of travertine which originally belonged to the podium of a building resembling in form the Temple of Concord (p. 85). This wall projects on either side of the existing portico of eight columns, and is exactly long enough to sustain a range of ten columns. It is thought that the raking cornice of the pediment is inclined at a smaller angle to the perpendicular than was originally the case, so that the inscription of Agrippa may in reality belong to a building—perhaps the original Pantheon—with a decastyle front. Excavations under the floor of the rotunda have brought to light two marble pavements at different levels, but no foundation walls, so that the space must always have been left open. This paved area extended beyond the limits of the present building.

We cannot here trace the development of the circular type in later architecture. As applied to buildings other than temples, e.g. mausolea (p. 190) and baths with their adjuncts (p. 124), it underwent many modifications, and when it was adopted by Christian architects as the typical form of the baptistery and the memorial church (*martyrion*) of a martyred saint a new chapter in its history began.

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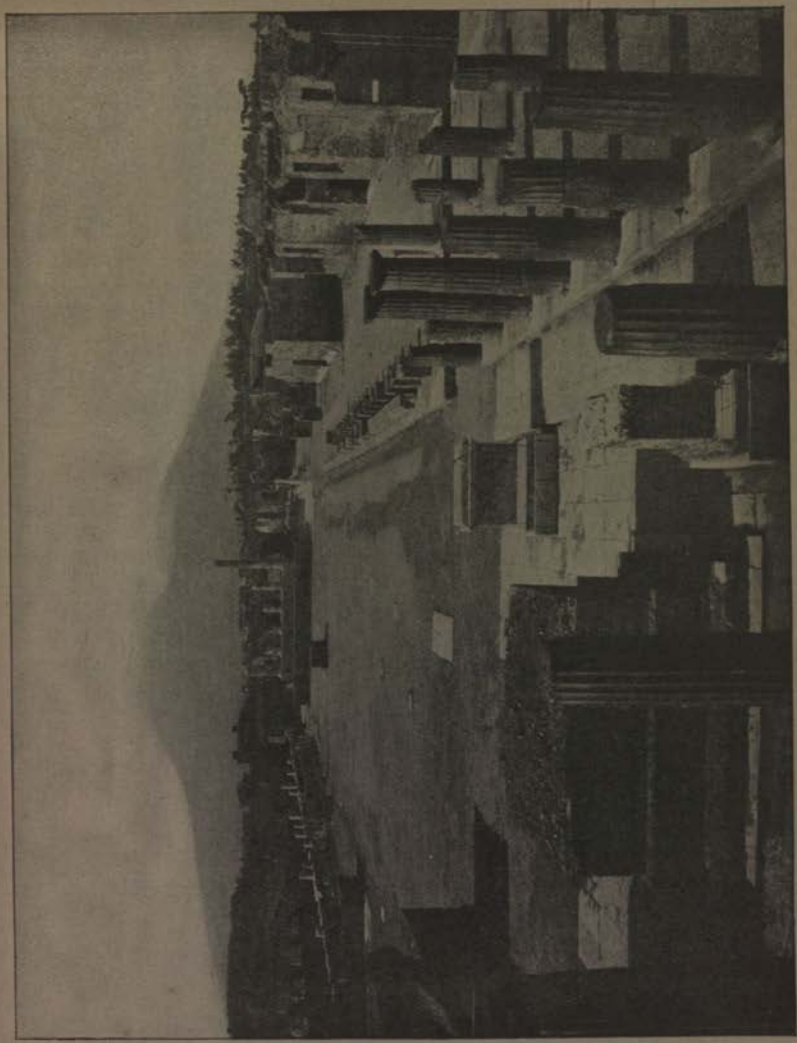
§ 4. FORA, BASILICAE, &C.

The word *forum* originally meant nothing more than an open space, and is applied in the Laws of the Twelve Tables to the fore-court of a family tomb (*vestibulum sepulcri*); but it was specially used of places of public meeting, especially those where markets were held. In many parts of rural Italy such market-places formed a centre of resort for a number of villages, and becoming, as was natural, centres of administration, gave birth in due time to urban communities. These took their names either from the tribe to which they belonged (*Forum Segusiavorum*) or from the individual who had called them into existence (*Forum Appii, Forum Sempronii*, &c.). Towns of this class were sufficiently numerous in Italy to be recognized as a type together with *coloniae, municipia*, &c., in the earlier Municipal Statutes.

It is not, however, with such *fora* that we have here to deal. In the vast majority of Italian towns the *forum*, though the centre of civic life, was not the germ from which the city had sprung. It is also to be noted that the original purpose of the *forum*, viz. the holding of markets, gave place to others, such as the administration of justice and the meeting of assemblies, as the growth

of population and the advance of culture demanded. In Rome, indeed, the *forum boarium* or cattle-market probably occupied its site by the river [Map 3] from the earliest times, and was in fact outside the gates of the earliest settlement, just as the *forum holitorium* (vegetable-market) was outside the Servian wall (v. *supra*, p. 34, and Map 3). Besides these we hear of the *forum suarium*, *f. piscarium* (or *piscatorium*), *f. vinarium* and *f. cuppedinis*, the last-named a provision market; and meat was sold in the *macellum*, which (together with the *forum piscarium*) was established to the north of the Forum proper, perhaps towards the close of the fourth century B. C. After this date the only trade carried on in the *forum* was that of the bankers and money-changers (*argentarii*), whose offices (*tabernae*) bordered its northern and southern sides. The same process took place in other cities; and we are not therefore to think of the *forum* of a typical Roman town as a market for the sale of provisions and other commodities, but as a *piazza* thronged by the citizens for purposes of intercourse and discussion, and surrounded by the public buildings in which the most important civic functions took place. Such a *piazza* is the Forum of Pompeii, shown in Pl. XVII, as seen from its southern extremity. Originally this was merely an open space bounded by four streets, adjoining which were the temples of Apollo (to the west) and that afterwards dedicated to the Capitoline triad of divinities (at the northern end). Towards the end of the second century B. C. a colonnade in two stories was built by the quaestor Vibius Popidius. Some of the Doric columns of the lower order may be seen in Pl. XVII at the southern extremity, and the adjoining portion of the east side. A slight change was made in the orientation of the Forum, and it seems that the basilica and the temple of Jupiter (in its present shape) belong to this period. The latter, however, was most probably not converted into a *Capitolium* (v. *supra*, § 3) until Pompeii became a Roman colony. In the early years of the Empire the Forum was again remodelled; a new colonnade was commenced and almost completed on the west side when it was destroyed by the earthquake of A. D. 63. On the east side, too, rose a series of buildings which relieved the congestion of the Forum, constantly increased by the erection of a crowd of honorary statues and monuments. Reckoning from north to south we have the Macellum, or provision market, rebuilt on a larger scale under Claudius (see below, p. 107), the shrine of the city Lares (probably of Augustan date), the temple of Vespasian, and the building of Eumachia, erected as it appears under Tiberius as a cloth exchange. The functions of government were carried on at the southern end of the Forum in the municipal buildings, while the *Comitium*, an enclosed space without a roof, was at the south-east corner. The entrances to the Forum could be closed by means of gates. On either side of the Capitolium were commemorative arches; that on the west was set up in honour of Tiberius. Several pedestals of honorary statues, some of them equestrian, stand



Forum of Pompeii.

along the sides of the *piazza*. The larger pedestals at the southern end supported statues of the Imperial family.

We may contrast with the Forum of Pompeii, whose gradual development reflects the history of the city, that of Thamugadi (Timgad) (Plan, Fig. 16), which was planned and constructed when

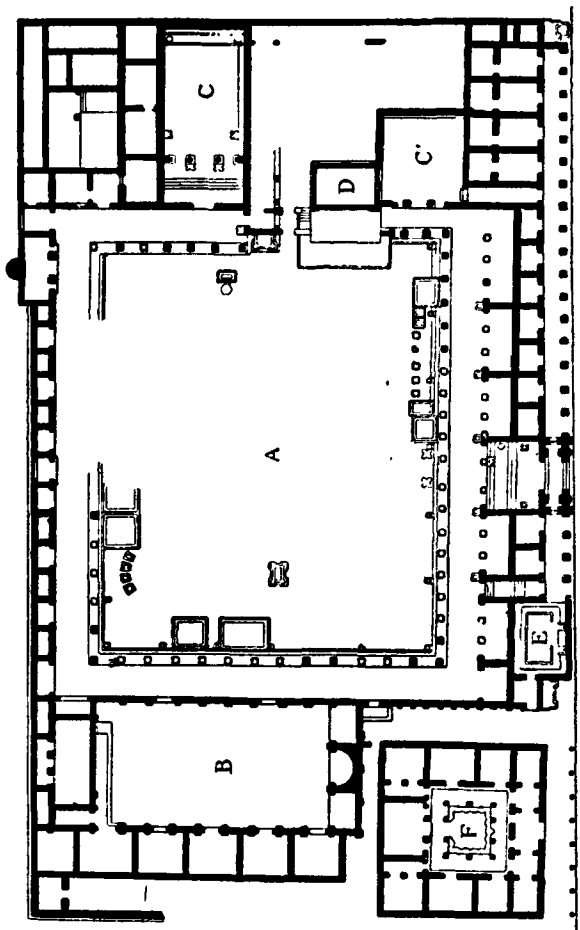


Fig. 16. Forum at Timgad.

Trajan established the colony. Including the buildings which surround it, it covers a space of 100 × 60 m., while the open area measures 50 × 43 m. This *piazza* (which is precisely orientated) was surrounded by a colonnade and entered in the middle of the north side by a single-bayed arch and flight of steps from the *decumanus maximus* of Thamugadi. It was peopled with the

usual honorary statues, and bordered partly by open rooms or *tabernae* and partly by buildings, of which we can certainly identify the *basilica* (B) and the *curia* (C), in which was found an inscription giving the roll of the municipal senate (*album decurionum*).[1] In front of the small temple (D), beneath which is a crypt which *may* have served as the *aerarium* or treasury, is a broad platform for speakers, approached by steps at the side; two hexagonal bases, which once supported statues of Victory, stand at either end of the platform and were connected by a balustrade. The use of the hall C′ is uncertain: at E were the public *latrinae*.

It has already been observed (p. 32 f.) that the Roman Forum (cf. Map 6) owed its origin to the amalgamation of the Palatine and Quirinal settlements. An ill-drained and marshy valley was converted into a market-place by the building of the *Cloaca Maxima*, which regulated the course of an existing stream, and burials ceased to take place in the early necropolis above mentioned (p. 32). The archaeological finds show that these changes belong to the sixth century B.C., and Roman tradition agreed herewith in ascribing the drainage of the Forum to the Etruscan kings. At the north-east corner of the new market-place a square precinct was marked out according to the rules of augury and consecrated as a *templum* to serve as the scene of public rites and the meeting-place of assemblies (*comitium*). On its northern side stood the senate-house (*curia*), the building of which was ascribed to Tullus Hostilius; on the west was the prison (*carcer*); and the remains of ancient walls and steps which have been brought to light in recent years, although extremely difficult of interpretation, make it highly probable that the raised platform afterwards known from its decoration as the *rostra* existed in some shape from very early times, and faced the *curia*. In or about the centre of this platform have been found the earliest monuments of historical Rome—the holy site which was long known as the 'tomb of Romulus' until the critical antiquarians of the Augustan age furnished rival explanations, and beside it other objects which were in later times partly destroyed and buried when the level of the Comitium was raised—the base of a pillar and the lower part of a pyramidal block bearing the earliest Latin inscription. Since this was written in vertical lines which alternate in direction its interpretation is quite uncertain; but it mentions the *rex*, and the archaic character of the alphabet makes it almost possible to refer the monument to the regal period of Roman history. We know, however, that the *rex sacrorum* whose existence perpetuated the tradition of monarchy performed certain ceremonies in the *comitium* on three days in the year (Feb. 23, Mar. 24, and May 24), and it is more likely that he is here in question.

To the early days of the Republic belong the first temples which rose about the Forum: the temple of Saturn is ascribed to 497 B.C., and that of Castor and Pollux to 484 B.C. It has been noted

[1] *C. I. L.* viii. 2403 = Dessau 6122.

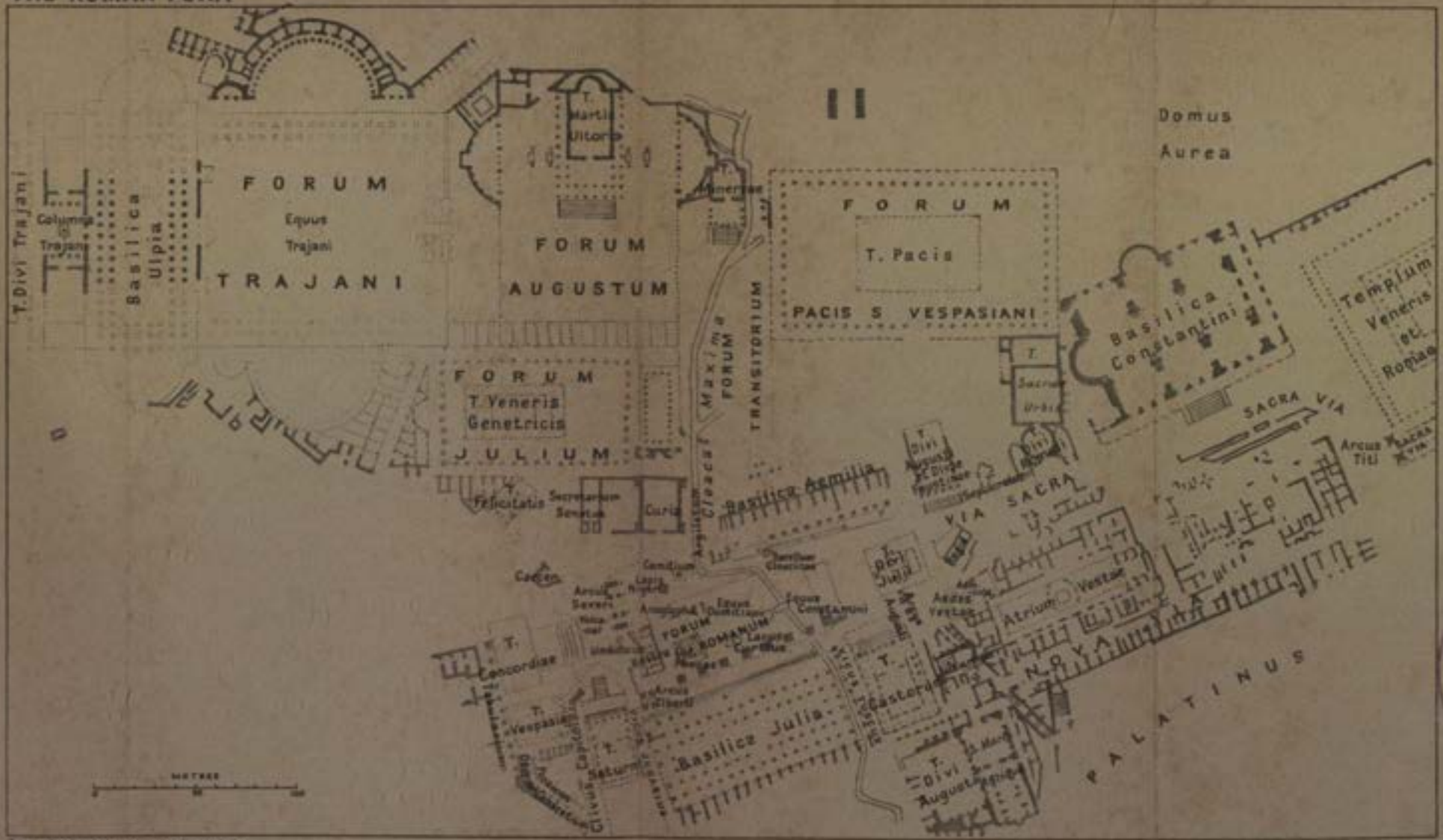
above (p. 53) that scanty remains of these early constructions are embedded in the substructures of these temples as rebuilt in Imperial times: several courses of such early masonry may be seen in the *podium* of the temple of Castor and Pollux. We cannot trace the damage inflicted on the monuments of the Forum by the conquering Gauls in 390 B.C.; but it was soon repaired, and in 366 B.C. the Temple of Concord was built on the slope of the Capitol. In 338 B.C. the Consul C. Maenius signalized his victory over the Latin League by adorning the platform of the Comitium with the beaks (*rostra*) of the captured vessels. His name was also attached by tradition to the stands or galleries (*Maeniana*) erected on the roof of the *tabernae* which bordered the Forum for the convenience of spectators at the games and festivals, whether public or private, which were celebrated in the *piazza*; and his services were recognized by the erection of an honorary column (*Columna Maeniana*) on the west side of the *comitium*. Other monuments began to group themselves about the *comitium* and *rostra*: statues of Pythagoras and Alcibiades, 'the wisest and bravest of the Greeks', were set up in obedience to an oracle, and in 200 B.C. C. Duilius, the first Roman admiral, was permitted to erect the *columna rostrata*, whose inscription (restored under the early Empire) still survives, in commemoration of his victory at Mylae.

By this time the Forum had ceased to be a market for the produce of the Campagna, and had become the seat of banking and exchange. Shortly after the Hannibalic War, during which, in 210 B.C., a great fire had devastated the surroundings of the Forum, the process began which was to transform Rome into the rival of the great Hellenistic capitals. In the course of the second century B.C. four *basilicae*—as to which see p. 104—arose on various sides of the Forum, changing its aspect into that of a Greek *ἀγορά*; while in 121 B.C., after the fall of C. Gracchus, the Temple of Concord was rebuilt, and the Sacred Way was spanned at its entrance into the Forum by an ornamental archway, the work of the Consul Q. Fabius Maximus Allobrogicus. This again, as the remains of Greek and Asiatic cities show, was adapted from Hellenistic models, but it served as a precedent for the most characteristic of Roman creations, the triumphal arch, and was decorated with statues of the more famous of Fabius's ancestors.

The Forum had meanwhile become the scene of the fierce political struggles which lasted until the fall of the Republic. In 145 B.C. the Tribune C. Licinius Crassus brought about the transference of the meetings of the legislative assembly (*comitia tributa*) from the *comitium* to the *forum*. Henceforward the speaker who addressed the Roman people from the *rostra* turned his back upon the Senate-house and faced the *forum*. During the Civil Wars a conflagration which destroyed the temple of Jupiter Capitolinus (in 83 B.C.) led to the rebuilding of the Curia by Sulla and (after Sulla's death) to the erection (by Q. Lutatius Catulus) of the *tabularium* (or Public Record Office) on the slope of the

THE ROMAN FORA

Map 5



B.V. Gardnshire, Oxford, 1907

Capitol. This building gave to the western extremity of the Forum the aspect which it retained throughout antiquity, and survives to the present day, topped by mediaeval accretions and retaining but a single unblocked aperture of its upper arcade. Fire once more made havoc of the Forum in 52 B.C., when the body of Clodius was burnt in the Comitium by the mob, and the Curia was again rebuilt by the son of Sulla.

The rise of Julius Caesar to power brought about a complete transformation of the Forum. Even while engaged in the conquest of Gaul he had formed plans for the rebuilding of the Basilicae to the north and south of the Forum Romanum, the transference of the popular assemblies to the Campus Martius, and the construction of a new Forum which should serve to connect the two (see below). These plans were only partly realized in his lifetime; the Basilica Julia (p. 104) and the Forum Julium were dedicated in 46 B.C., but neither was finished, and it was reserved for Augustus to carry the dictator's work to completion. The aspect of the Forum was now totally changed. The level was raised, and many monuments of early Rome were buried; a new Senate-house, the Curia Julia, was built, reducing the *Comitium* to a fraction of its original dimensions, while the *Rostra* were transferred to the western end of the Forum; the Basilicae (Julia and Aemilia) were completed, and Augustus built a temple to his deified predecessor facing the new *Rostra*, beside which a triumphal arch commemorating the restoration of the eagles of Crassus arose in 20 B.C. The temple of Saturn was restored by Plancus, and those of Concord and the Castores by Tiberius.

But although the external aspect of the Forum had gained in splendour, it had lost its historical significance as the meeting-place of a free and conquering people. Henceforward it ceased to be a place of business or even of amusement—since games were no longer held there after the reign of Augustus—and became the scene of Imperial functions and the site of historical monuments. Tiberius built a triumphal arch facing that of Augustus, and a temple for the worship of the founder of the Principate: later emperors were forced to seek a place for their buildings in the space to the east of the Forum proper, where the great fire of A.D. 64 had wrought destruction. The only temple added to those encircling the Forum Romanum was that of Vespasian and Titus (A.D. 71); while the list of triumphal arches was closed by that of Septimius Severus (dedicated in A.D. 203). In the troublous century which followed his death the Forum was neglected by the emperors; but after a great fire under Carinus (A.D. 283–4), Diocletian and his colleagues rebuilt the Curia and the Basilica Julia, in front of which rose a series of columns bearing honorary statues; and the erection of a colossal equestrian statue of Constantius gave to the Forum its latest historical monument of importance.

Owing to the increase of population and congestion of business

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the Forum Romanum, with its adjacent *basilicae*, ceased to be adequate to the needs of the community, and new *fora* were added by the emperors, the plan of which can be reconstructed from extant remains and is shown on Map 5. The typical form of these was a rectangular court, in the centre of which stood a temple. The first of these was the Forum Julium, begun by Caesar in 54 B.C. and finished by Augustus, which enclosed the temple of Venus Genetrix, the ancestress of the Julian house, vowed on the battlefield of Pharsalus and dedicated in 46 B.C. It stood between the Forum Romanum and the Campus Martius. Adjoining it on the east was the Forum Augustum, built by Augustus in connexion with the temple of Mars Ultor, vowed at Philippi and dedicated in 2 B.C. There are considerable remains of the northern enclosing wall, which is irregular in shape; we are told that Augustus, when purchasing the site from private owners, refused to resort to compulsory expropriation. There were large semicircular apses (*exedrae*) in the east and west walls, containing niches in which were placed bronze statues of the *triumphatores* of the Republic. To the east of the Forum of Augustus, and separated from it by the thoroughfare leading to the Subura, which for the first part of its course was known as the Argiletum, was the so-called 'Forum Pacis'; the name was popularly given to the great court enclosing the Temple of Peace built by Vespasian in A.D. 71 on the conclusion of the Jewish War. This was not so much a Forum in the ordinary sense of the word as a library and museum, whither the spoils of Greece and Asia, plundered by Nero for the adornment of his Golden House, were transferred by Vespasian. Domitian planned, but did not complete, the transformation of the thoroughfare mentioned above into a Forum, the central feature of which was his temple of Minerva. It was called the Forum Transitorium, and dedicated by Nerva, whose name it popularly bears. Lastly, Trajan, determined to outdo his forerunners, commissioned the architect Apollodorus of Damascus (cf. p. 82) to plan a Forum, for the construction of which a space was levelled between the Capitol and the Quirinal.[1] It had no central temple (though a small shrine (*sacellum*) of Libertas is mentioned), but consisted of three parts: to the east a large open court entered from the side of the Forum Augustum by a triumphal arch, surrounded by colonnades with large *exedrae* to the north and south, and having in the centre a colossal equestrian statue of Trajan; then a basilica, described on p. 105; finally, a narrow rectangular court, in the centre of which stood the Column of Trajan, while the Greek and Latin Libraries were at either end.

[1] This is not the place to discuss the significance of the inscription on the base of the Column of Trajan, which has been taken both by ancients and moderns to mean that the height of the column (*100 feet*) indicated that of the hill or saddle which was dug away to make room for the buildings of the Forum. Geological and other considerations make it unlikely that so high an eminence existed at this point, and other interpretations of the inscription have been proposed.

The temple which was lacking to complete the design was added to the west of this by Hadrian and dedicated to his predecessor.

Amongst the adjuncts of the market-place none was more important than the *basilica*, which served as a place of meeting for the citizens, an exchange for merchants, and a court of justice. The name (=*βασιλική*, sc. *στοά*) betrays the Greek origin of the type, but its origin and exact significance are not easy to trace. It has often been supposed that the *στοὰ βασίλειος* at Athens gave its name to the *basilica*; a basilica built by Herod the Great at Jerusalem is called *βασίλειος στοά* by Josephus. But the form *βασιλική* is first found under the Hellenistic monarchies, at Thera and at Pergamon. The first of these buildings was an oblong hall divided into aisles by a single row of columns; the second a portico in two stories. Neither correspond precisely with the type described by Vitruvius (v. 1, 6), who gives detailed measurements of a *basilica* built from his own plans at Fanum. This consisted

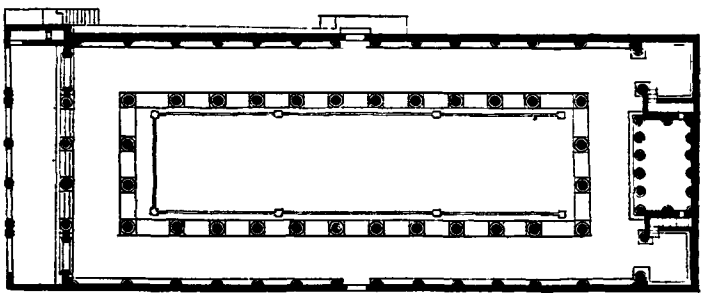


FIG. 17. Plan of Basilica at Pompeii.

of a central hall divided by columns from a corridor of two stories running round it. The corridor was lower than the main hall, which was lighted by a clerestory. The *basilica* which adjoins the Forum of Pompeii does not differ greatly from this in plan (Fig. 17), but the corridor was of the same height as the central hall, and had no gallery; the building was therefore lighted, not by a clerestory, but by windows in the upper part of the outer walls. At one end of the *basilica* was the *tribunal*, a raised platform for the magistrate who administered justice. At Pompeii this was a rectangular platform supported in front by a row of columns, and approached by a flight of steps at each end, which projected from the wall into the corridor; but many basilicas had an apsidal termination in which the tribunal was placed,[1] and this disposition was adopted in the Christian church.

It is, as we shall see, impossible to lay down a single plan common to all basilicas; the name is even applied, as at Timgad (Fig. 16, B), to an open hall without aisles or corridor; but the

[1] We sometimes find an apse at either end of the hall, e. g. at Silchester (p. 29).

central hall higher than the side aisles and lighted by a clerestory is a feature common to the vast majority of such buildings; and Vitruvius seems to imply that this was a distinguishing mark of the *basilica* by the parallel which he draws between it and the *oecus Aegyptius*, a saloon found in private houses which was surrounded by a colonnade and lighted by clerestory windows opening on to a terraced roof. The name of this suggests an Alexandrian origin, and it has been suggested that the type of basilica above described was created at Alexandria. In any case, it was introduced into Italy early in the second century B.C.

The existence of a basilica in Rome is denied by Livy for the year 210 B.C. (xxvi. 27); but Plautus mentions such a building in the *Curculio* (v. 472):—

Ditis damnosos maritos sub basilica quaerito.

We know of four basilicas built in the course of the second century B.C.: the Basilica Porcia, built in 184 B.C. by Cato the Elder, to the west of the Comitium; the Basilica Aemilia et Fulvia, built in 179 B.C. by M. Aemilius Lepidus and M. Fulvius Nobilior on the north side of the Forum; the Basilica Sempronia, built in 170 B.C. by the father of the Gracchi, on the south side of the Forum; and the Basilica Opimia, built in 121 B.C. by L. Opimius, to the north-west of the Forum. The rise of these buildings marks the period when Greek influences were predominant in Roman architecture. Nor were the other cities of Italy slow to follow the example of the capital. The Greek cities of the south, such as Pompeii, doubtless built their basilicas in the second century B.C.; and by the time of Augustus, whose body rested on its last journey '*in basilica cuiusque oppidi*' (Suet. *Aug.* 100), there must have been few towns in Italy which had not followed suit.

Nothing remains of the early basilicas of Rome; but in the latter part of the first century B.C. those which bordered the Forum were rebuilt. This was part of Julius Caesar's scheme for the embellishment of the Forum and its surroundings. A beginning was made in 54 B.C. by L. Aemilius Lepidus Paullus, who was enabled at Caesar's expense to restore the Basilica Fulvia, to whose adornment earlier members of his family had contributed; henceforth it was known as the Basilica Aemilia. On the south side the Basilica Sempronia made way for a more imposing structure which Julius dedicated while still unfinished in 46 B.C. under the name of the Basilica Julia, and Augustus finally completed. Soon afterwards it was destroyed by fire, but was rebuilt by Augustus and dedicated in 12 B.C. in the name of his grandsons Gaius and Lucius Caesar; and though it suffered severe damage from fire more than once, the existing remains enable us to trace at least the plan of the Augustan building. The Basilica Aemilia, completed and dedicated by Paullus Aemilius Lepidus, the son of Caesar's partisan, in B.C. 34, was rebuilt by him after

a fire in A.D. 14 (at Augustus's expense), and again restored in A.D. 22 by his son. The excavations of recent years have brought to light considerable remains of the building, which was rudely restored at a late date (probably the fifth century A.D.) and partly converted into a private house in the Dark Ages.

A comparison of the two buildings will show what variations were admitted in the basilican type. The Basilica Julia (Plan, Map 5) consisted of an oblong central hall paved with coloured marbles, which was surrounded by a corridor and gallery formed by two stories of arcades carried on massive piers (see the restoration, Frontispiece), and was lighted by a clerestory. It measured 100 by 36 metres. This was approached from the Forum by a flight of steps leading to a portico likewise consisting of a two-storied arcade (see the restoration in the Frontispiece). At the back a series of chambers (*tabernae*) took the place of the portico.

The plan of the Basilica Aemilia was somewhat different. Here, too, a flight of steps led from the Forum to an arcaded portico of two stories (see Frontispiece); but in this case a row of *tabernae* opened on the portico, whose back wall formed one of the longer sides of the basilica proper. This measured 70 by 29 metres, and consisted of a nave with one aisle to the south, but two to the north (this side has not yet been excavated, but a fragment of the *Forma Urbis* shows the plan). The aisles were separated from the nave by ranges of columns of *affricano*, and had upper galleries. The basilica was lighted by a clerestory and probably had an apse at its eastern extremity.

Both these were surpassed in size by the Basilica Ulpia, which formed a part of the group of buildings connected with Trajan's Forum (see Map 5). This was a long hall with an apsidal termination at both ends; it had double side-aisles divided by ranges of columns. Its major axis was at right angles to that of the group of buildings to which it belonged, so that the entrances lay in the middle of the side walls. The central section of this *basilica* is laid bare and adjoins the Column of Trajan on the south. At either extremity were libraries (p. 139).

The last of the great basilicae erected in Rome was that commenced by Maxentius between 306 and 310 A.D., but completed by Constantine, from whom it takes its name. This was originally planned with a single apse at the west end, the entrance being through an arcaded portico on the east (see reconstruction, Fig. 18), but a second apse was afterwards built in the central bay of the north side, and an entrance was made in correspondence therewith on the south, where four columns of porphyry sustained a portico looking on the Sacra Via. This building departs in many respects from the usual basilican type and approximates to that of the great central halls in the thermae. Instead of side-aisles we find bays communicating with each other by means of arched openings. The constructive features of the vaulting have already been discussed (§ 1).

The basilica was, however, not merely found as a public building used as market, exchange, or law court, or in some towns as a public hall connected with baths, theatres, &c. It was also found in the larger private mansions and in the Imperial palaces.

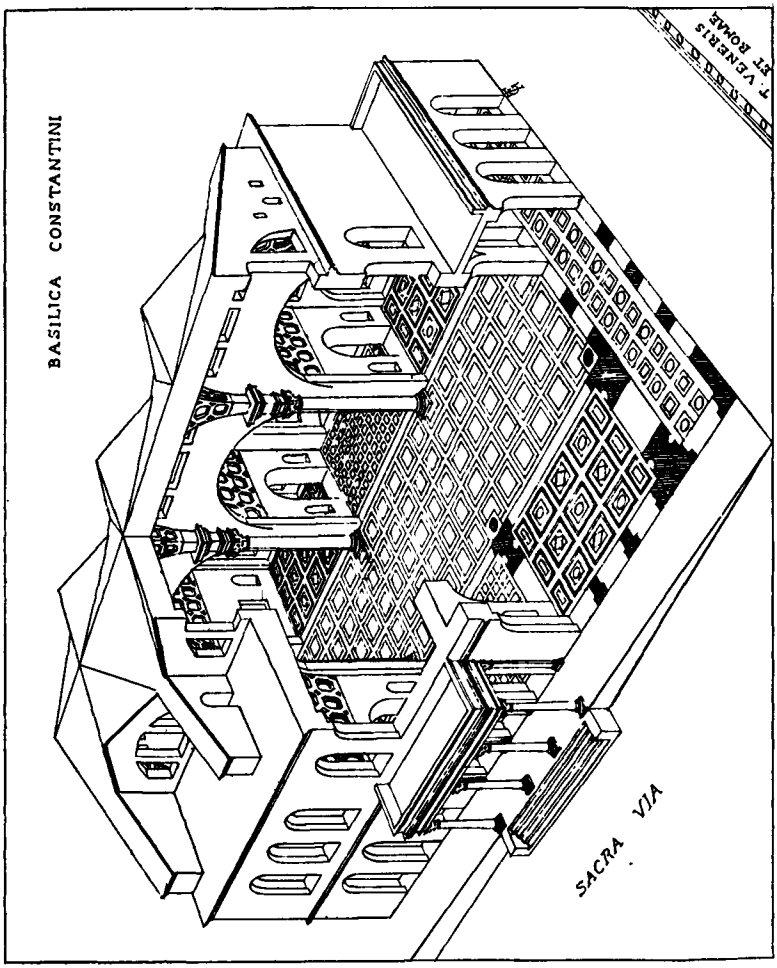


Fig. 18. The Basilica of Constantine (restored).

Vitruvius (vi.5, 2) mentions such private *basilicae*, and examples of them remain in the Domus Flavia on the Palatine (Plan, Map 6), and in the villa of Hadrian near Tivoli (Plan, Fig. 32). The plan of these is somewhat simpler than that of the larger public *basilicae*. There is a single apse and a central hall, with a single aisle on each of the longer sides only. It is important to note this fact, since it bears on the question of the origin of the style adopted in

the Christian church. It has been argued that this is independent of the civil *basilica*, and is in fact derived from the *atrium* of the private house; but it is in that case hard to account for the name, while we know that the *basilicae* attached to private mansions were in fact used as places of religious worship, not merely by Christians, but by members of other sects. Thus a *basilica* belonging to the house of a certain Hilarus on the Caelian was used for religious purposes by the *dendrophori* of the Magna Mater; and Jerome tells us that Constantine converted to Christian use the *basilica* belonging to the *domus Lateranorum*. Thus there can be small doubt that the architectural type of the Christian church is ultimately derived from that of the market-halls of the Hellenistic period.

It was explained above that a provision-market (*macellum*) was built at Rome when the *forum* ceased to be a market-place. Here the several *fora* mentioned on p. 96 were brought together. The building, which was restored by the censors of 179 B. C., consisted in an open square (*area*) surrounded with shops (*tabernae*), in the centre of which was a circular structure (*tholus*). This, or something like it, became the typical form of the market in Roman towns. We know nothing definite of the *macellum Liviae*, built under Augustus on the Esquiline; but the *macellum magnum* built by Nero on the Caelian (A. D. 59) had a central *tholus* surrounded by two-storied porticoes, as is shown by his coins. The *tholus* was in time transformed into the Church of S. Stefano Rotondo, but very little remains of the original structure. At Pompeii the *macellum* was at the north-east corner of the Forum. It consists in a rectangular court surrounded by a deep colonnade and bordered by shops on three sides; those on the north opened into a side-street, those on the west into the Forum. On the east side were chapels consecrated to the Imperial worship. The *tholus* was formed by twelve columns forming a dodecagon and carrying a roof; beneath was a basin with a drain, where fish were washed and scaled, as the remains show. The walls of the colonnade were decorated with wall-paintings, which are among the best examples of the latest Pompeian style. Not unlike this, but still more sumptuous in its appointments, is the *macellum* of Puteoli. Here the shops which border the rectangular court (measuring 75 × 58 metres) open alternately on the *area* and the surrounding streets; the *tholus* is formed by a circular colonnade of the Corinthian order, apparently unroofed, surrounding a marble pavement with a drain in the centre; and the north side of the court has in the centre an apsidal *cella*, separated by two small rooms on either side from the halls which occupy the angles. At Timgad there is no *tholus*, but at one end of the *area* there is a semicircular range of shops, with slabs of grey granite upon which the wares were exposed.

Porticoes. The market-places and, in Hellenistic times, the streets of Greek cities were often bordered by colonnades which gave

protection from sun and rain and were indispensable to the outdoor life which the ancients loved. A well-known example is the portico built by Attalus of Pergamon in the Agora at Athens, a two-storied building with a row of shops at the back. Such colonnades were also built as independent structures for public or private use, often enclosing a rectangular court or surrounding a temple or gymnasium. In the second century B.C., when Rome was rebuilt after Greek models, a number of such *porticus* were erected. In 193 B.C., a colonnade was built from the Porta Fontinalis (p. 71) to the altar of Mars in the Campus Martius, and another outside the Porta Trigemina (p. 71) in the neighbourhood of the Emporium (p. 325). Fourteen years later M. Fulvius Flaccus, the censor of 179 B.C., caused a number of *porticus* to be erected, which must have extended in an almost continuous line from the Emporium to the temple of Apollo Medicus outside the Porta Carmentalis (p. 71). Five years after, the censors constructed a colonnade at the northern extremity of the Forum, from the temple of Saturn to the Senate-house, restored that which had been built in 193 B.C. outside the Porta Trigemina, and laid a colonnaded road from the same gate to the summit of the Aventine.

In 168 B.C. a new type of *porticus* was introduced into Rome by Cn. Octavius, the conqueror of Perseus of Macedonia, who built a double colonnade which bore his name (*Porticus Octavia*) in the Campus Martius. Pliny tells us that it was called the 'Cŏrinthian colonnade', from the bronze Corinthian capitals of its columns, perhaps the earliest example of this order in Rome. But its splendour was soon eclipsed by that of the Porticus Metelli, built in 149 B.C. by Q. Caecilius Metellus, the conqueror of Macedonia, near the Circus Flaminius. This colonnade enclosed two temples, those of Juppiter Stator and Juno Regina, and became a museum in which the masterpieces of classical Greek sculpture, as well as those of more recent artists, were set up. In the reign of Augustus it was rebuilt and received the name Porticus Octaviae from the sister of the emperor; a library was added to it, and also a hall used for meetings of the Senate. Destroyed by fire under Septimius Severus, it was restored in A.D. 203, and the entrance, which was converted into the Church of S. Angelo in Pescheria, is still preserved (Pl. XVIII). It consists in a double row of four Corinthian columns supporting an entablature (upon which is engraved the inscription recording the restoration by Severus and Caracalla) and pediment. Some remains of the south colonnade can also be traced. In the last century of the Republic and the reign of Augustus the number of *porticus* in the Campus Martius was largely multiplied. They served as parks, picture galleries, and museums of sculpture, and contained rooms for public use. Such were the *Porticus Minucia* (110 B.C.), afterwards distinguished as *Porticus Minucia vetus* from the *Porticus Minucia frumentaria* where the largesses of corn were distributed; the

Remains of the *Porticus Octaviae.*

Porticus Pompeiana, which adjoined the Theatre of Pompey (p. 124) and contained the *curia Pompeii* in which Caesar was murdered; the 'Portico of the Hundred Columns' (*Hecatostylon*), disposed in a double colonnade with a central wall; the *Porticus Philippi*, bearing the name of L. Marcius Philippus, the stepfather of Augustus, which enclosed the temple of Hercules and the Muses, and served both as a bazaar and a picture gallery; the *Crypta Balbi*, which adjoined the Theatre of Balbus (p. 124) and had two stories, the lower arcaded; the *Porticus Argonautarum*, built by Agrippa in 27 B. C. and named after a painting which adorned it; lastly, to the east of the Via Lata the *Porticus Vipsania*, planned by Agrippa as part of a park laid out under the name of *Campus Agrippae*, but completed by his sister (hence *Porticus Polae*), and dedicated in 7 B. C., called by Martial *Porticus Europae* from a picture which it contained. Domitian built a large *porticus* in the southern portion of the Campus Martius which bore the name of the *Porticus Divorum* from the fact that it contained shrines of Vespasian and Titus. Even in the decline of the Empire, fresh *porticus* were built in this region—the *Porticus Boni Eventus* (A. D. 374), and the *Porticus Maximae* of Gratian, Valentinian and Theodosius, which apparently bordered the street leading to the arch erected in honour of those emperors. Amongst the other *porticus* of Rome the most noteworthy was the *Porticus Liviae*, built by Augustus on the Esquiline, near the Church of S. Martino ai Monti, which is represented on extant fragments of the Marble Plan (see Fig. 8). It was a rectangular building measuring about 115 × 75 metres with a double colonnade and exedrae in the long sides: in the centre of the garden-court was a shrine of Concord.

§ 5. Triumphal Arches.

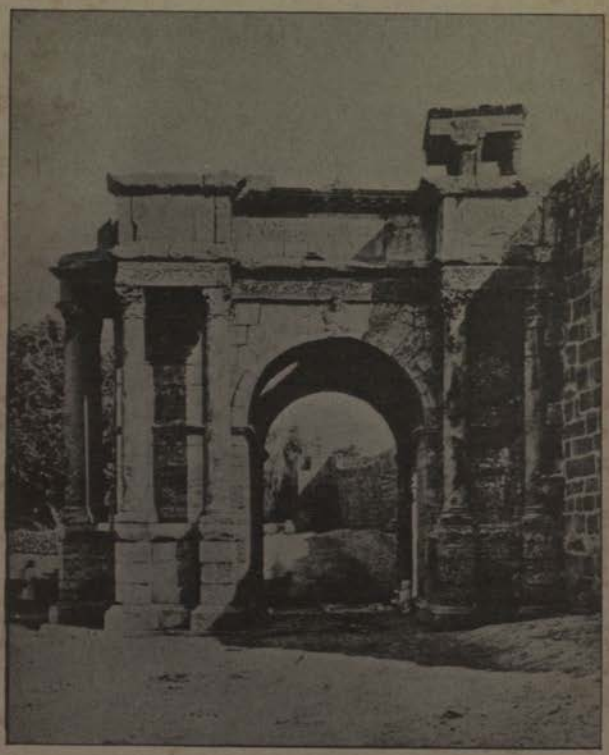
The monumental arches which are amongst the most conspicuous remains of Roman architecture, are generally regarded—and not without some reason—as a creation of the Roman genius. Pliny lends support to this view when he says (*N. H.* xxxiv. 27) that whereas in former days honorary statues were set up on columns, 'the same meaning is now conveyed by the modern invention (*novicio invento*) of arches'. His words are of value in that they emphasize the fact (which we might be tempted to forget) that the monumental archway was of less importance than the statue which surmounted it. Such arches were, however, no new invention in Pliny's time; as early as 196 B. C. we read that one L. Stertinius set up three *fornices* out of the booty taken in his campaigns in Spain. Two of these seem to have given access to temple-precincts, the third stood in the Circus Maximus. They supported statues of gilded bronze. Three years later Scipio Africanus erected a *fornix* on the ascent to the Capitol which sustained seven statues of gilded bronze, two of which were equestrian, before setting out with his brother for the East. In neither case was the erection of

A. Arch at Orange.

B. Arch of Trajan at Beneventum.

an arch connected with the celebration of a triumph, and the earliest arch which can be called, in the usual phrase, 'triumphal' was the *fornix Fabianus*, erected by Q. Fabius Maximus Allobrogicus in 121 B.C. in commemoration of his victory over the Allobroges. This spanned the Sacra Via and adjoined the Regia, where fragments of the inscription and apparently of the arch itself have been found; it was adorned with statues of the most distinguished members of the Fabian *gens* and restored in 56 B.C. That honorary arches were no uncommon distinction in Republican times is proved by the fact that, as Cicero tells us, such an arch was set up in honour of Verres in the Forum at Syracuse, and sustained a statue of his son. But the vast majority of these monuments belong to Imperial times, when many hundreds were built in all quarters of the Empire in honour of the reigning house. Although there was no necessary connexion between the erection of such an arch and an Imperial triumph, the phrase *arcus triumphalis* was coined in recognition of the fact that such celebrations were often commemorated in this way: though it does not appear in literature until the fourth century A.D., it occurs in four inscriptions found in North Africa, the earliest of which belongs to the joint reign of Severus and Caracalla. The most famous of Roman arches—those of Titus, Severus, and Constantine—may be classed as 'triumphal', although neither Severus nor Constantine celebrated a triumph; for the first of these was decreed in honour of the suppression of the Jewish revolt (A.D. 70), though not dedicated until after Titus's death (A.D. 81), the second commemorates the victories of Severus in the East (A.D. 198–9), and the third bears an inscription which records that an arch *triumphis insignis* was dedicated to Constantine, since he had 'avenged the Republic on the tyrant [Maxentius] and his faction'. But the arches set up throughout the Empire were varied in their significance. It has been said that especially in Southern France, where some fine specimens are preserved, e.g. at Orange (Pl. XIX A), they commemorated the foundation of Roman colonies and were placed on the line of the *pomerium* as monumental entrances to the newly-founded cities; but this explanation will only apply to a limited number of arches. Some commemorate public works undertaken by the emperors: thus the Arch of Ariminum (Rimini) was set up at the termination of the Via Flaminia restored by Augustus (p. 47), and the Arch of Beneventum (Pl. XIX B) is significant of the construction of the Via Trajana (p. 41) from Beneventum to Brundisium: again, Trajan's Arch at Ancona, which stands upon the mole of the harbour (p. 158) recalls the works carried out there by the emperor. Here, however, there is an added significance in the fact that, as is shown by the reliefs of Trajan's column, Ancona was the emperor's port of departure for his second Dacian campaign; it is noteworthy that although the arch appears on the reliefs as complete in A.D. 105, its inscription is dated A.D. 115. Fragments of an inscription recently discovered

A. Arch of Constantine at Rome.



B. Arch of Caracalla at Theveste.

show that an arch was erected in Trajan's honour at Asseria, between Salonae and Burnum; and there can be little doubt that though it is dated to A. D. 114, it commemorated a visit paid to the town by the emperor in the course of his march to Dacia. It is therefore impossible to comprehend under a single formula the significance of Roman 'triumphal' arches. It cannot even be said that as a mark of distinction their erection was reserved for the Imperial house: for private families, such as the Sergii at Pola[1], were thus honoured.

The architectural form of the Triumphal Arch was gradually elaborated by Roman builders. The single archway, properly called *fornix*, was doubtless the original type; we have three examples which date from the reign of Augustus: (*a*) at Susa (Segusio) in the Cottian Alps, where M. Julius Cottius, the representative of a native dynasty who had exchanged the kingly title for that of an Imperial prefect, set up an arch adorned with rude reliefs in honour of Augustus in 9–8 B. C.; (*b*) at Rimini (Ariminum), see above; (*c*) at Aosta (Augusta Praetoria), a military colony founded in 25 B. C.[2] The most conspicuous examples of this form in later times are the Arches of Titus at Rome and that of Trajan at Beneventum, whose massive piers have engaged columns at their angles, according to the practice of first-century builders. In the course of the second century it became usual to substitute for these detached columns over which the architrave was returned.[3] Arches of two bays are almost unknown—there is an example at Announa in Algeria—but the type with one large central and two smaller side-bays, of which the most familiar instances are the Arches of Severus and Constantine at Rome, is found at an early date at Orange (Arausio), where a colony was founded by Julius Caesar (*Pl.* XIX A). This monument bears an inscription dated in A. D. 21 in honour of Tiberius, and there is no valid reason

[1] The inscription is given by Dessau 2229. The date is uncertain; but it has been suggested that P. Sergius, tribune of the twenty-ninth legion, may have brought the veterans of his corps hither after the battle of Philippi, and become the chief magistrate of the newly-founded colony. Other arches bearing the names of private families are that of the Gavii at Verona (destroyed in 1805), that of the Julii at St. Remy, and that of the Campani at Aix. These places may therefore be claimed as colonies of pre-Augustan foundation, or at least not later than 27 B.C.

[2] These arches, though all simple in their scheme, vary in detail and effect. That of Susa is the lightest, that of Aosta the most massive; the Arch of Rimini, which has engaged columns *not* placed at the angles, and a low pediment, scarcely attains to the ideal of a free-standing monument, but looks like an ornamental gateway in a wall.

[3] The earliest extant example of this is to be found in the remains of the monumental gateway at Asseria in Dalmatia, the date of which falls within tho closing years of Trajan's reign (v. *supra*). Here the columns on the outer face are free, those on the inner face engaged. Free columns are shown, however, on coins of Trajan which represent a triumphal arch erected after the successful termination of the Dacian War. The legend 'Forum Trajani' shows that the arch stood in the Forum of Trajan, or perhaps formed a monumental entrance thereto.

for supposing that it was erected at an earlier period. On several of the pieces of armour represented in relief we find inscribed the names of Gaulish artists: and the style of the reliefs, like that of many other sculptures belonging to the same region, shows that a local school of artists, subject to the Greek influences of Massilia, was at work. From the second century A.D. we have a famous example of the triple arch at Timgad, which is commonly termed the 'Arch of Trajan', but as it seems, is not earlier than the Antonine period. The Arch of Constantine at Rome (Pl. XX A) was adorned with the spoils of earlier monuments belonging to the Flavians, Trajan, Marcus Aurelius, and possibly Diocletian: its detached columns were crowned by statues of Dacian captives taken from Trajan's forum. Beside the types of arch already described, the *ianus*, with four openings, was not uncommon. The only extant Roman example is the *Ianus quadrifrons* at the entrance to the Forum Boarium from the Velabrum, a work of the early fourth century: the Arch of Caracalla at Tebessa (Theveste), which has two detached columns in front of the outer faces of each pier, is an elegant example of the form (Pl. XX B). Our illustrations will show how Roman arches were decorated with reliefs, often of great historical and artistic importance. In the Arch of Titus the piers (largely restored in modern times) were left without decoration: but the taste of later times demanded greater profusion of ornament, and in the Arch of Beneventum we find panels and friezes of relief covering the entire surface except the space reserved for the inscription.

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§ 6. BATHS.

The habit of regular bathing was foreign to the Romans in early times, and was learnt by them from the Greeks, from whom the name of the bath (*bal(i)neum* [*balnea, balneae*]) which we find in the comic poets, was borrowed. It was, however, the Romans who carried the arrangements for bathing to a height of luxury never since equalled, and created, in the great thermae, a type to which—in spite of the Greek form of the name—there is no reason to ascribe a Greek origin. Beside these public institutions, the use of which was either free or at least provided at an infini-

tesimal cost, there were smaller *balnea* created by private enterprise and managed for profit,[1] and to the Roman of wealth and position a suite of bath-rooms, whether in town- or country-house, in Rome or in distant provinces (even in the inclement regions of Northern Europe and the British Isles), was a necessity.

The simplest form of the *balneum* is that found in private residences, of which a typical example may be seen in the *Villa rustica* of Bosco Reale (Plan, Fig. 31). In this we meet with the essential feature of the Roman bath, viz. a succession of chambers graduated in temperature, leading to the hot bath. At Bosco Reale these were three in number, and we may give them the names *frigidarium*, *tepidarium*, and *caldarium*, according to the terminology of Vitruvius and other writers. These form the simplest elements of the *balneum*; but in most cases an *apodyterium* (undressing room) preceded the suite, and where space allowed, there was also the *frigidarium* containing a *piscina* or swimming-tank filled with cold water. The *tepidarium* was in this case heated by means of *tegulae mammatae*—tiles with knobs—which lined the walls, leaving an empty space through which hot air could pass freely. Other methods will be described below. The *caldarium* contained at one end the hot bath (*alveus*) of marble, at the other the washing-basin (*labrum*) which stood in an apsidal recess (*schola*). The furnace (*praefurnium*) derived its heat from the kitchen fire (B is the kitchen, 2 the hearth), and the cylindrical leaden boiler (*ahenum*) was found *in situ*, with its system of pipes and taps by which both hot and cold water could be admitted to the bath in the desired proportions.

As an example of a public establishment of early date and modest proportions, we may take the so-called *Thermae Stabianae* at Pompeii (Plan, Fig 19). This is the largest and also the oldest of the three bathing establishments in that town, having been built in the second century B. C. The improvements introduced at a later time illustrate, as will be seen, the development of bathing arrangements. As the plan shows, the building occupied an irregular block surrounded by streets, upon two of which opened shops unconnected with the baths, which were entered by a broad doorway. The central space is occupied by the *palaestra* (A), with a colonnade on three sides, and on the fourth a raised strip of pavement used for playing a game with bowls or ninepins, beyond which is the swimming-bath (C) or *piscina*.

The presence of the open *palaestra* is the distinguishing feature of Roman thermae, in which gymnastic exercise was regularly taken either before or after the bath.[2] The bath-rooms themselves

[1] In 33 B.C. there were 170 such private establishments in Rome (Plin. xxxvi. 121): the regionary catalogues of the fourth century give the number as 856. Natural hot springs or brine-baths formed special attractions; cp. the inscription from Pompeii:—THERMAE . M . CRASSI . FRUGI . AQUA . MARINA . ET . BALN . AQUA . DULCI . IANUARIUS . L.

[2] The baths of Agrippa are called γυμνάσιον by Cassius Dio (53. 27. 1), and

form two suites, intended for the separate use of the sexes. The men's baths, which were on the east side of the court, were entered at the south-east corner of the enclosure. Here we find waiting-rooms for slaves (a) and an ante-room (b) leading to the *apodyterium* (c) with a vaulted ceiling elaborately decorated with reliefs in stucco, benches along the sides, and niches or lockers in the walls nearly 6 feet above the floor. On another side the ante-room gave access to the *frigidarium* (d), which is a circular room with niches in the corners, and consists of a large basin for cold water surrounded by a narrow strip of pavement. The room is domed, and light is admitted only by an aperture in the summit of the dome, which is studded with stars on a blue ground, while the walls are painted to represent a garden. The *tepidarium* (e) possesses a bathing tank, which is not generally found, while the *caldarium* (f) had the usual *alveus* and *labrum*. Next the *caldarium* is the furnace-room

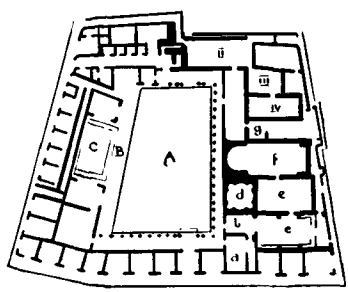


FIG. 19. The Stabian baths at Pompeii.

(*praefurnium*) (g), which serves both the men's and women's suites, and is provided with three cylindrical tanks (*ahena*) according to the rule laid down by Vitruvius. One of these was directly over the fire and supplied hot water; the next, for lukewarm water, stood over an empty space in front of the furnace; the third, a cold-water tank, had a solid foundation. The women's baths were approached from the side-streets by long passages, and in later times communicated with the *palaestra* through a corridor (I) which originally had no opening to the west. The women had no *frigidarium*; a basin for cold baths in the *apodyterium* (II) is a later addition. Remains of portable bath-tubs of bronze have, however, been discovered.

Beyond the *tepidarium* (III) is the *caldarium* (IV), the *alveus* of which was provided with a *testudo* similar in principle to that found at Bosco Reale, consisting of a half-cylinder placed above the flue, opening into the *alveus* and having a slightly lower level. Besides the public suites for men and women, there were a

Tacitus appears to use the term *gymnasium* of the Thermae Neronianae (*Ann.* xiv. 47).

set of private bath-rooms at the north-west corner of the building (I–IV).

An inscription dating from the early part of the first century B.C. records the fact that the *duumviri* G. Ulius and P. Aninius restored the colonnade and portico and built a *destrictarium* and *Laconicum*. The first of these, a room for cleansing the body with the *strigil* after gymnastic exercise, may be recognized in the chamber D at the south-west corner of the baths. The *Laconicum* it is not so easy to identify. According to Vitruvius, the term signified a domed room with an opening at the apex, heated with hot air and used for sweating (*sudatio*). The temperature was regulated by means of a bronze shutter by which the opening at the crown of the dome could be opened or closed. Such a chamber does not exist in the Stabian baths; but it is certain that originally the heating was done by means of braziers, and that the hollow floors and walls by which hot air was supplied to the *caldaria* (first) and *tepidaria* (afterwards) were a later addition. It is therefore reasonable to suppose that the word *Laconicum* is here applied to the new heating arrangements; and we are told that the system of hollow floors (*suspensurae, balineae pensiles, hypocausta*) was invented by C. Sergius Orata, a noted epicure who lived about 100 B.C. Such hypocausts are found in numberless examples throughout the Roman world, and were used not merely in bathing establishments, but in living rooms, especially in the cold climates of the northern provinces, such as Gaul and Britain. In general they conform to the rules of construction given by Vitruvius (v. 10. 2), who recommends that on the lower floor, laid with *tegulae bipedales* (tiles 2 feet square) on a bed of concrete, should rest several rows of dwarf pillars (*pilae*), made of *tegulae bessales* (tiles 8 in. square) set in clay, 2 feet in height, supporting the upper floor. Hot air from the furnace (*hypocausis*) entered and left the hollow floor by flues (*cuniculi*). The system was afterwards perfected by the addition of air-chambers in the walls, sometimes formed, as explained above, by the use of *tegulae mammatae*, but more usually by means of hollow tiles (*tubuli*) embedded in the walls, in vertical rows, sometimes with lateral intercommunication. Exceptional arrangements are at times found, e.g. at Silchester (*Archaeologia*, xlvi, Pl. XII) a hollow floor has been discovered in which the supports are blocks of masonry pierced by holes and disposed with open passages radiating from the centre. The material of the *pilae* varies greatly, e.g. at Wroxeter drums of granite columns are found, and the height of the hollow space often exceeds that prescribed by Vitruvius and reaches one metre in some cases. The domed sweating-chamber or *Laconicum* (in the proper sense of the word) is found in the latest of the three bathing-establishments at Pompeii, generally called the Central Baths, which were in course of construction when the city was destroyed. These were destined to meet the requirements of a more luxurious age, and had the large glazed windows opening to the south which Vitruvius prescribes.

It will also be noted that there is only one suite of bathing-rooms. It may be that these baths were intended for the use of men only, or that they were to be reserved for women at certain hours; this was certainly the case in small communities, as is shown by the *Lex Metalli Vipascensis*, an inscription relating to a small mining town in Spain. It should be noted, however, that the great thermae of Rome had but one suite of rooms; and we know from the statements of Pliny (xxxiii. 153) and Martial (iii. 51, &c.) that women and men bathed together under the Empire, although the practice was regarded as immodest, and was, in fact, forbidden by Hadrian, M. Aurelius, and Severus Alexander.

The history of the thermae of Rome dates from Agrippa, whose baths in the Campus Martius adjoined the Pantheon (Fig. 15). Dio Cassius tells us that in 25 B.C. Agrippa built a 'Laconicum'; but this does not necessarily imply that his thermae were then completed, and the Aqua Virgo which fed them was not carried as far as the Campus Martius until 19 B.C. Since they were restored by Titus or Domitian after a fire in A.D. 80 and again by Hadrian, while additions were made under the Severi, the remains now extant or known to us from sixteenth-century drawings are not conclusive as to the original arrangements. There is, however, a large hall, measuring 45 by 19 metres, immediately behind the Pantheon, which was originally open, but in the time of Hadrian was buttressed to receive a vault of three bays. We shall find analogous chambers in the later thermae. The area covered by the buildings of Agrippa seems to have measured 228 by 86 metres. Nero likewise built baths in the Campus Martius which were reconstructed by Severus Alexander and hence called Thermae Alexandrinae.

The next remains of importance are those of the two thermae on the spur of the Esquiline named the Oppius (p. 32), which have been identified as those of Titus and Trajan. Both these rose on the site of the Golden House of Nero, but while the Baths of Titus seem to have been built on an open space, and are the smallest of all the Imperial thermae, measuring 115 by 110 metres, those of Trajan were raised at the expense of a part of Nero's buildings. Unfortunately we depend for our knowledge of the plan of these baths mainly on drawings of the sixteenth century; but we are able to trace the symmetrical disposition of the principal halls, and in the Thermae of Trajan the enclosure of the main building within a large precinct (the extreme measurements are 340 by 330 metres) furnished with *exedrae*, reading-rooms, &c. The open space was no doubt laid out as a pleasure-garden; in fact, we have here the type of the People's Palace which later emperors only slightly modified.

This type is best known to us from the remains of the Thermae of Caracalla on the Appian Way, and of those of Diocletian on the Quirinal. The former were begun about A.D. 212 and dedicated by Caracalla in A.D. 216, although not finished before the reign of Severus Alexander. The area of the enclosure measures 353 by

335 metres, that of the main building 216 by 112 metres. They were, however, surpassed in size by those of Diocletian, dedicated in A. D. 305-6, whose enclosure measured 410 by 400 metres, and their main building 280 by 160 metres; and while the Baths of

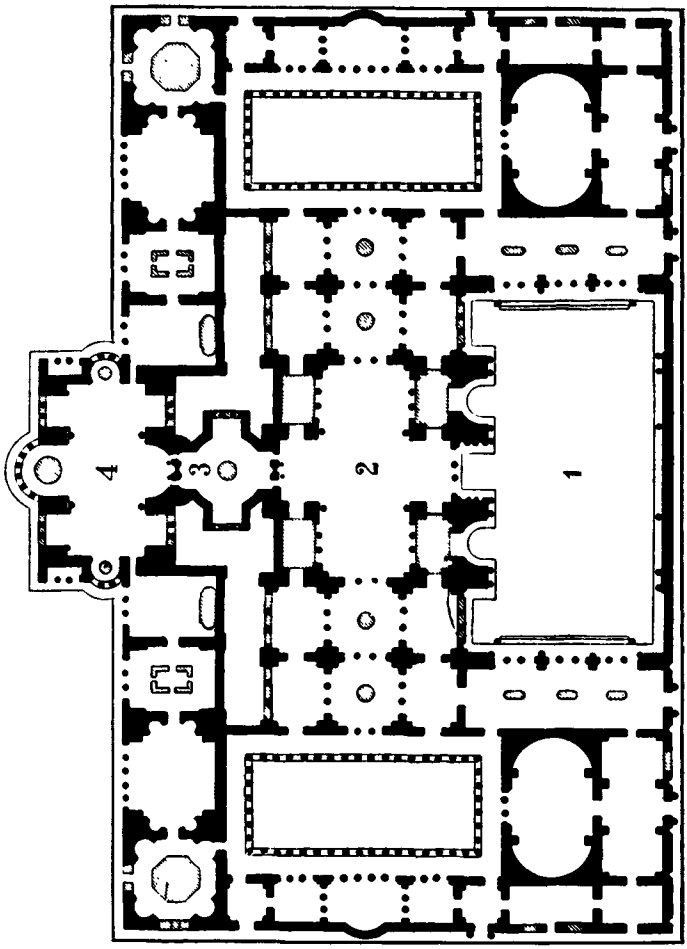


FIG. 20. Central block of the Baths of Diocletian.

Caracalla could accommodate 1600 bathers at once, those of Diocletian were designed for twice that number. Their ground plans are very similar, and Fig. 20, which gives that of the central block of the Baths of Diocletian, may be taken as typical. In each the main entrance leads into a large hall containing a large *piscina*; that of the Thermae of Caracalla had a capacity of 1430 cubic metres of water, and the hall had a flat roof said to have been sup-

ported by concealed girders, while the corresponding chamber in the Baths of Diocletian was open to the sky. Then followed a central hall vaulted in three bays, from which the bathers passed through a smaller chamber or vestibule to the *caldarium*, which in the Baths of Caracalla is circular and in both cases projects beyond the line of the rectangle formed by the main building, in order to be fully exposed to the sun. In either wing of the central block is a large open *palaestra* with colonnades, and the remaining space is filled by smaller rooms for the purposes of toilet, exercise, and attendance. It is usual to call the large hall containing the swimming-bath the *frigidarium* and the central chamber the *tepidarium*, but, apart from the question whether the nomenclature of Vitruvius can be strictly applied to the later Imperial thermae, it is difficult to recognize the *tepidarium* in a hall of immense size without heating arrangements, and the name should rather be applied to the smaller vestibule which leads into the *caldarium*. The buildings which went to form the outer enclosure included gymnasia, libraries, lecture-rooms, even a theatre (in the Baths of Diocletian). The latest of the great thermae were those built by Constantine on the edge of the Quirinal (Plan, Map 3). The space available was irregular, and it was necessary to make an artificial platform raised on the remains of earlier buildings: hence the spacious enclosure was replaced by a piazza in front of the main (northern) façade, and the central block had its major axis in the line of the entrance. But few remains, except architectural fragments, of these baths have come to light.

The type just described was transplanted by the later emperors to their provincial capitals. The most notable example is to be seen in the so-called Baths of St. Barbara at Trier (Trèves). As the plan (Fig. 2) shows, the remains consist of the central suite of halls, and a number of rooms to the left of them, with which a similar series was, beyond doubt, in symmetrical correspondence. It is to be noted that the entrance hall with its great *piscina* is lacking, while, on the other hand, the side-rooms are grouped about a swimming-tank for warm water. We must see in these arrangements a sign that the conventional scheme was adapted to a northern climate, and a further proof that the name *frigidarium* is wrongly applied to the entrance-hall of the Roman thermae.[1] The side-rooms contained a large number of female ornaments, and we may thus infer that the corresponding suite was reserved for men. A precisely opposite scheme was adopted at Thelepte in Africa (Medinet Kadina), where there is a central *piscina* with a complete suite—*frigidarium*, *tepidarium*, *caldarium*, and *Laconicum*—for each sex.

Pl. XXI gives Anderson's restoration of a part of the central hall of the Baths of Caracalla, and may serve to give an impression of

[1] In the larger Thermae of Cherchel (Caesarea), which are likewise built on the lines of the Roman thermae, the *frigidarium* forms the principal hall (24 × 14 m.), it is paved with slabs of onyx and has four large granite columns, and has *piscinae* adjoining it on three sides. On the fourth a small *tepidarium* (with hypocaust) forms the transition to the *caldarium*.

the sumptuous decoration of the Imperial thermae, which were filled with famous works of sculpture, and thus fulfilled the

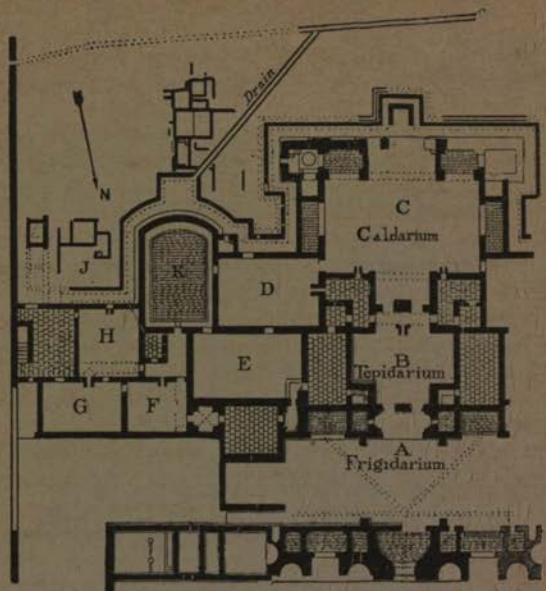


FIG. 21. Roman baths at Trier.

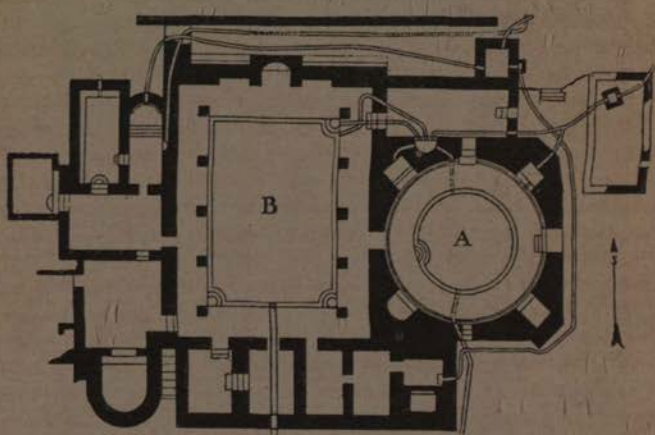
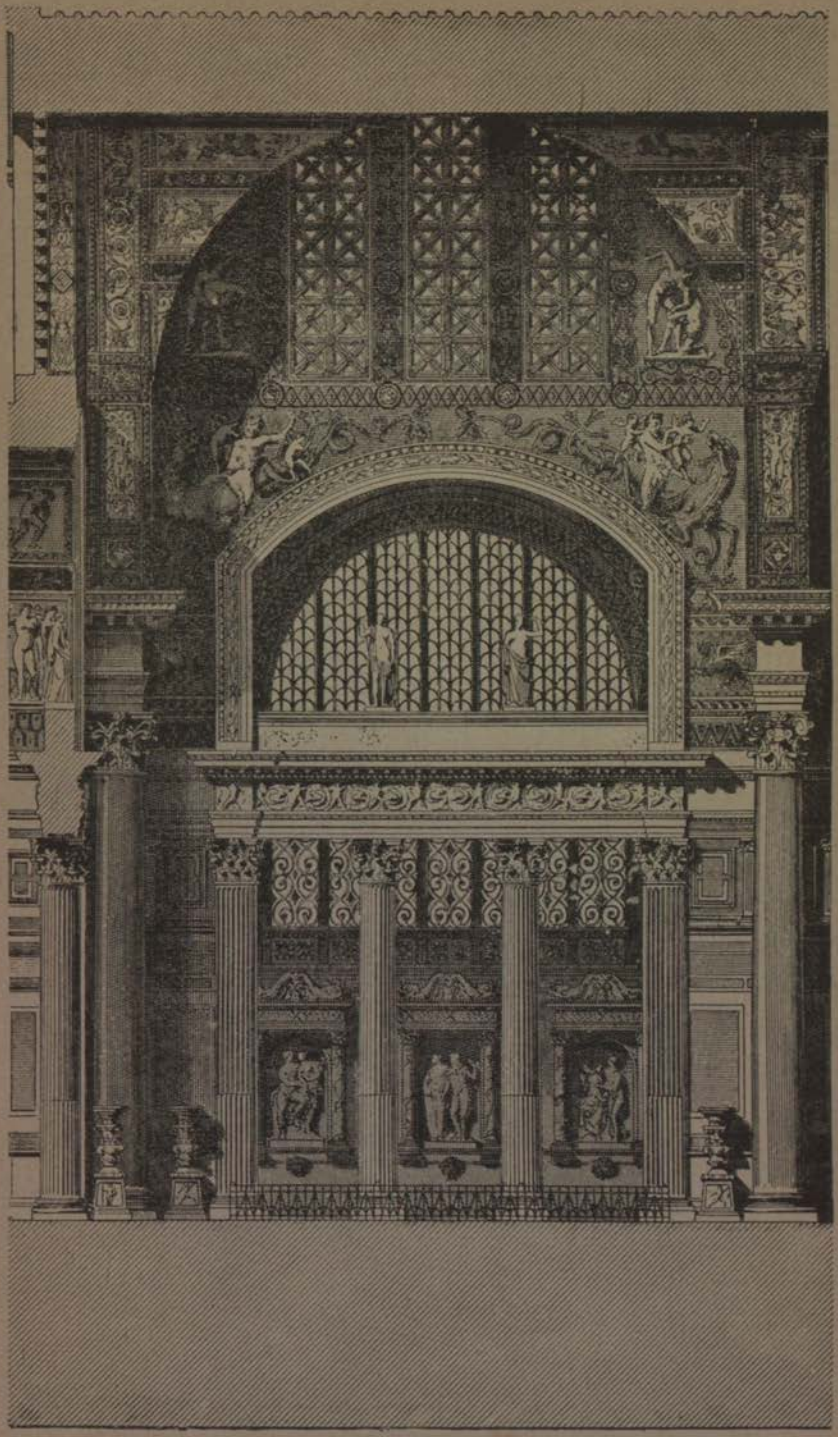


FIG. 22. Baths at Aquae Flavianae.

function of art-galleries in addition to their other purposes. The Laocoon, for example, was discovered in the Thermae of Titus, and the Farnese bull in those of Caracalla.



Part of the central hall of the Baths of Caracalla (restored).

The bathing establishments built in connexion with mineral springs naturally differed in plan from the thermae. As an example we may take the Baths of El-hammam (*Aquae Flavianae*) in Numidia (Plan, Fig. 22), fed by a hot spring whose temperature at its source is 70° C. Here there were two *piscinae*, one a circular chamber of 8 metres diameter (A) covered with a dome constructed with terra-cotta pipes, and doubtless lighted by a central opening, the other rectangular (B), measuring 13·8 in. by 10·05 in. and surrounded by a vaulted portico. There are also a number of dressing-rooms and private bath-rooms. The establishment dates from the Flavian period (as the name shows): the buildings were restored by Septimius Severus.

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§ 7. THEATRES, AMPHITHEATRES, AND CIRCI.

Although dramatic performances were introduced at Rome as early as 364 B. C. (v. chap. VII, § 6), no permanent theatre was built until the last century of the Republic. Originally a wooden platform served for the performers, and spectators of all ranks mingled freely until 194 B. C., when separate places were railed off for senators. A temporary building (*theatrum et proscaenium*) is first heard of in 179 B. C. This was no doubt a wooden construction, and we hear of several such during the century which followed, notably that built by L. Mummius in 145 B. C. The last was that erected by M. Aemilius Scaurus in 58 B. C. which was gorgeously decorated, as many as 3,000 statues being used in the adornment of the stage-buildings alone (Pliny, *N. H.* xxxiv. 36). Three years later Pompey, as consul, built the first permanent theatre of stone, and in 13 B. C. two others were added, the first by L. Cornelius Balbus, the second by Augustus, who dedicated it to the memory of his nephew Marcellus. Rome possessed no other permanent theatres, though temporary structures were from time to time erected by the emperors. Considerable remains of the theatre of Marcellus are still in existence, while the situation of the others can be determined with accuracy. Their seating capacity is given in the *Notitia Urbis Romae* as follows:

Theatrum Pompeii	17,580.
Theatrum Marcelli	20,500.
Theatrum Balbi	11,510.

Pliny, however, gives 40,000 as the number of seats in the first named. Huelsen rejects all these figures, as well as those given for the amphitheatre and circus, believing that they refer not to the

number of spectators who could be accommodated, but to the space allotted in Roman feet—we know that in fact such bodies as the priestly colleges were assigned a fixed number of feet—and gives the following estimates:

Theatrum Pompeii. . . .	9,000–10,000.
Theatrum Marcelli. . . .	14,600 (after Caristie).
Theatrum Balbi	7,000–8,000.

Examples of the Roman theatre in far better preservation than that of Marcellus exist in Italy and the various provinces of the Empire, e.g. at Orange (Pl. XXII) in the west and at Aspendus and Bozrah in the east: and at Pompeii we have two theatres, one of which is a century older than that of Pompey. We have also the technical directions of Vitruvius as to the construction of theatres, on which existing remains furnish a commentary.

Vitruvius clearly distinguishes the Greek from the Roman theatre, giving a geometrical construction for each. The essential distinction lies in the fact that while the orchestra of the Greek theatre formed a segment considerably greater than a semicircle, while the stage was narrow, the Roman theatre gave greater depth to the stage and diminished the orchestra to a semicircle. The annexed plan (Fig. 23) shows the rules of proportion as given by Vitruvius.

A circle is taken whose diameter is equal to that of the orchestra, its circumference is divided into twelve equal parts and four equilateral triangles are thus inscribed in it. The base of one of these gives the line of the *scaenae frons* or background, while the parallel diameter of the circle marks the front of the stage. Both lines are produced to the length of two diameters. The seats of the auditorium (*cavea*) are arranged in semicircles concentric with the orchestra, and the apices of the inscribed triangles mark the points from which staircases ascend, dividing the *gradus* into *cunei* or wedge-shaped divisions. The auditorium is likewise divided laterally by a *praecinctio* or promenade, above which additional stairways are provided in the intervals. At the corners of the orchestra the seats are cut away, in order to give access thereto by vaulted passages. Three doors in the back wall of the stage correspond with the apices of the inverted triangles.

The extension of the stage at the expense of the orchestra is due to the gradual disappearance of the chorus, from whose evolutions the Greek drama had been gradually developed. This process had begun during the Hellenistic age, and we find that the Asiatic theatres of that period belong to a type intermediate between the Greek and the Roman, so that when they were converted after the Roman model little alteration was needed save that the stage was made somewhat deeper and longer. It has been thought that the Romans borrowed the form of their theatre from the Hellenistic Greeks, and we are in fact told that the theatre of Pompey was modelled on that of Mytilene; but it is at least

possible that the new type had already come into existence in Campania. Recent excavations at Pompeii have shown that the larger of the two theatres there preserved owes its present form to a series of reconstructions. We know nothing of the form of the stage-buildings in its earlier period, but it would appear that a low permanent stage was erected in the early days of the Roman colony (about 80 B.C.); before this time, if there was a raised stage, it must have been made of wood and set up in front of the stage-buildings. This theatre does not conform to the Vitruvian canon, since the old semicircular *cavea*, which no longer sufficed for its purpose, was enlarged by the prolongation of its wings;

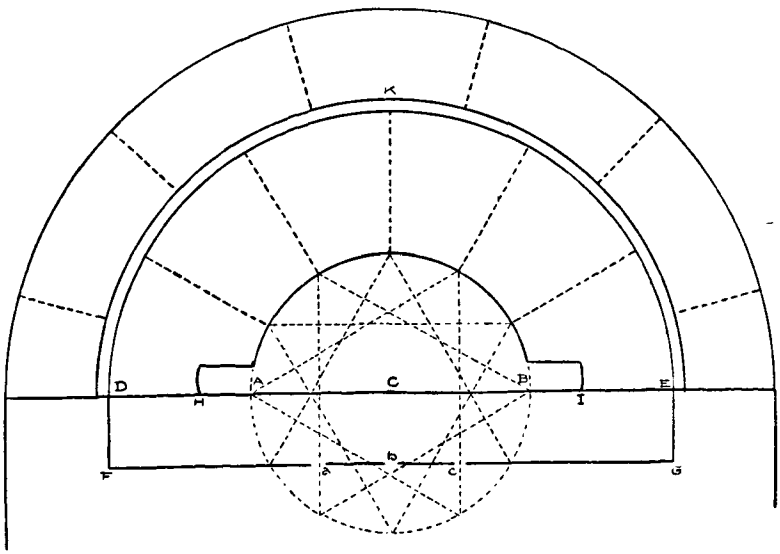


FIG. 23. Plan of the Roman theatre according to Vitruvius.

the stage, too, is lower than that prescribed by Vitruvius. However, the Romans may well have found other models for their theatres in this district, just as the use of the awning (*velum*) to shelter the spectators from sun and rain is said to have been of Campanian invention.

Architecturally speaking, the Roman theatre marks an advance on that of the Greeks, in virtue of the fact that it is an organic whole, and that its effect is not confined to the interior but extends to the external aspect. In the Greek theatre the stage-buildings and the auditorium were disconnected, so that the orchestra was entered by open passages (*πάροδοι*). The Roman theatre, on the other hand, was a closed structure, with vaulted passages in place of the *πάροδοι*. Again, the Greeks usually built their theatres on natural slopes, in which seats were cut for the

spectators. The Roman theatre was generally built on level ground, and the problem of giving dignity to the external façade and convenient access to the auditorium had to be solved. Here the Romans were conspicuously successful. In the theatre at Pompeii the lower sections of the auditorium (*ima* and *media cavea*) lie on a natural slope, but the uppermost seats (*summa cavea*) are supported by a vaulted corridor whose floor is on the ground level. From this six doors open upon the top row of the *media cavea*. External stairways lead to a narrower vaulted passage by which the *summa cavea* is entered from above. In the theatres of Rome and those which were erected after their pattern in the provinces of the Empire we find a system of vaulted corridors, usually in three stories, encircling the *cavea* and communicating therewith by internal stairways. Externally the façade presents a series of arcades, between which are engaged columns, in appearance supporting architraves, and representing the three orders of Greek architecture. The Doric order, as the most massive, occupies the lowest place, the Ionic the centre, and the Corinthian, as the lightest, the topmost story. But for the fact (v. *supra*, p. 59) that the columns and architraves have no constructive function, this scheme must be pronounced a great artistic triumph, since it emphasizes in a simple and harmonious pattern the main lines of division in the building. It is found in the theatre of Marcellus at Rome, and is most familiar in its application to the amphitheatre from the classical example of the Colosseum.

Vitruvius directs that above the *summa cavea* a covered portico shall be built, in which the spectators can take refuge from sudden showers. This feature is not found at Pompeii, but there are traces of it in certain theatres in the eastern provinces, notably at Bozrah, where three columns and an architrave are still standing, and at Aspendus in Pamphylia, where an arcade takes the place of the columns; its existence, though more than probable, cannot be demonstrated in western examples. The *cavea*, as stated above, could be covered when necessary by an awning (*velum*). This practice is said by Pliny (*N. H.* xix. 23) to have been introduced at Rome by Q. Lutatius Catulus in 78 B. C. It is impossible to determine precisely how the *vela* were worked; but it is clear that they were supported by masts (*mali*) projecting above the top of the outer wall, and that the masts were fixed to stone consoles. At Pompeii (where there was no internal portico) we find projecting blocks of basalt on the inside, with round holes in which the masts were set; but the usual practice was to place the brackets on the outside of the wall above the uppermost order of columns. Amphitheatres were protected in the like manner; in the Colosseum the consoles take the form of flat pilasters, which pass through openings in the cornice (*infra*, p. 132).

The stage-buildings of the Roman theatre were equal in height with the *cavea* and massive in construction, so that several

examples are still in existence. The theatre at Orange is shown in Pl. XXII. The *scaenae frons* presented to the audience an elaborate architectural façade, enriched with niches containing statues which usually rose in three stories.[1] On the floor level three (or sometimes five) doors, as in the Greek theatre, opened on the stage from the dressing-room (*postscaenium*) at the back, and there were likewise doors in the side-wings (*versurae procurrentes*). The stage was also connected with the orchestra by short flights of steps. Immediately behind its front wall was a narrow slit (plainly visible at Pompeii), into which the curtain (*aulaeum*) was lowered when the play began. The stage doubtless had a wooden ceiling: this is clearly indicated by the remains at Orange, Aspendus, and Bozrah. Immediately over the side passages giving access to the orchestra were boxes (*tribunalia*) reserved (at Rome) for the magistrate presiding at the performance (on the spectator's left) and for the Vestal virgins on the opposite side.

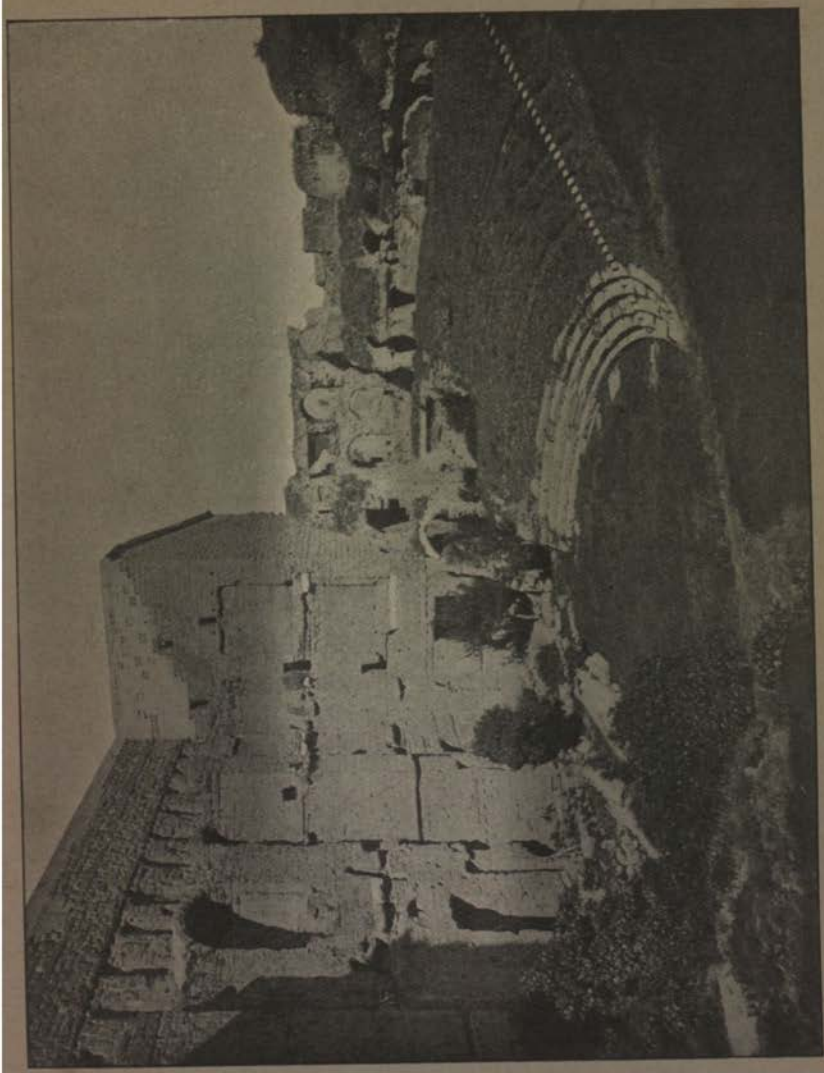
The Romans also built covered theatres, partly for use in rainy weather, but more especially for acoustic reasons. The Odeum built by Herodes Atticus at Athens was a covered theatre, and it is reasonable to suppose that such buildings were specially appropriated to musical performances.[2] The small theatre at Pompeii, adjoining that already described,[3] is called *theatrum tectum* in the inscription which records its construction, and may be dated not long after 80 B. C. In order to support the pyramidal roof, the upper tiers of seats were shortened, and the building was made oblong in shape. Above the uppermost row of seats was a wall, probably with windows. The remains of a similar covered theatre exist at Aosta. Here the outer walls were supported by buttresses, and there were two ranges of windows, which are in part preserved.

Amphitheatres. The amphitheatre, like the gladiatorial shows for which it was devised, was unknown to the Greeks; but it does not appear to have been a creation of the Roman genius. As we shall see (chap. VII, § 3), the institution of gladiatorial combats was popular in Campania before it captured the taste of the Roman public; and the earliest in date of all extant amphitheatres is without doubt that of Pompeii, which belongs to the earliest years

[1] Vitruvius gives a canon of proportions for the three orders of columns, with their plinths and entablatures. The lowest plinth should be equal in height to one-twelfth of the diameter of the orchestra, the column to one-quarter of that diameter, and the entablature to one-fifth the height of the column. In the other orders the plinths are progressively reduced in height by one-half and the columns by one-quarter. The proportion of the entablature to the column is constant.

[2] No trace has been discovered of the Odeum at Rome, built by Domitian for the performances of the Agon Capitolinus; but it was probably a covered theatre.

[3] Statius (*Silv.* iii. 5. 91) mentions an open and covered theatre as forming part of a single block of buildings (*geminam molem nudi tectique theatri*) at Naples. The latter no doubt served for the musical performances at the *agon* mentioned in the next line (*Capitolinis quinquennia proxima lustris*).



Roman theatre at Orange.

of the Sullan colony. The inscription which gives the names of the builders, C. Quinctius Valgus and M. Porcius, gives it the name *spectacula*, and the word *ἀμφιθέατρον*, which was at first applied to the circus as well as the amphitheatre proper[1] is of later coinage. The story told by Pliny that C. Curio, the partisan of Caesar, caused two wooden theatres to be constructed on revolving bases, which formed a single amphitheatre, seems unworthy of belief, and possibly arose from an attempt to explain the name as meaning 'double theatre'. So far as we know, the first permanent amphitheatre in Rome was that built by Statilius Taurus in 29 B. C. in the Campus Martius; this was destroyed in the great fire under Nero (A. D. 64). The amphitheatre of Pompeii represents the earliest stage in the construction of such buildings. It is 444 feet in length by 342 in breadth. Its external elevation is comparatively low, and both the arena and the lower tiers of seats are excavated[2]; there are no underground chambers. The arena, and the lower divisions of the seats, were approached by broad corridors at the northern and southern extremities of the structure, as well as by two vaulted passages in each of the longer (western and southern) sides. There were thirty-five tiers of seats in three divisions—five in the lowest (*ima cavea*), twelve in the middle (*media cavea*), and eighteen in the highest (*summa cavea*); to this last access was given not only by the stairways from the arena, but also by a large double staircase on the outside of the building, which led to a terrace and a gallery divided into small boxes. On the south and east sides the terrace was merged in the city-wall. Externally, a series of arcaded buttresses ran round the building. It may have held 20,000 spectators. Amongst the amphitheatres of Imperial date the Colosseum (Plan, Fig. 24) claims our principal attention, built by Vespasian on the site of an artificial lake belonging to the Golden House of Nero, and inaugurated by Titus in A. D. 80 with shows lasting 100 days. It was known in antiquity as the 'Flavian amphitheatre', but was popularly described, at least since the seventh century A. D., by the name which it still bears. We are told that Vespasian built the three lowest divisions of seats (corresponding with the two lower orders of arcades), Titus the two upper divisions (with the two upper orders of arcades), while Domitian completed the structure 'up to the shields', which decorated the parapet. In A. D. 217 the Colosseum was struck by lightning, and for some years the gladiatorial shows were held in the Stadium whilst it was being restored; but its present ruinous condition is due in large measure to the effects of earthquake, chiefly, it would seem, in the fifth and fourteenth centuries A. D., as well as to the hand of the spoiler searching for building material.[3] The Colosseum stands in an

[1] By Dionysius of Halicarnassus (*Antiq. Rom.* iv, 44, *ἀμφιθέατρος ἱππόδρομος*).

[2] Originally the spectators sat on the sloping banks; the seats were gradually added, the uppermost tier not till after 7 B. C.

[3] The extent of the damage thus done has been somewhat exaggerated.

artificially levelled piazza, elliptical in shape, paved with slabs of travertine, which surrounds the building to a distance of 60 feet: the amphitheatre itself measuring 188 × 156 metres, the major axis of the ellipse lying almost due east and west. The materials used are travertine for the exterior and the parts which sustain the greatest weight, tufa and 'sperone' (*lapis Gabinus*) for the inner walls of the lower stories, brick and concrete for those of the upper structures. The arena measured 86 metres by 54, and rested upon

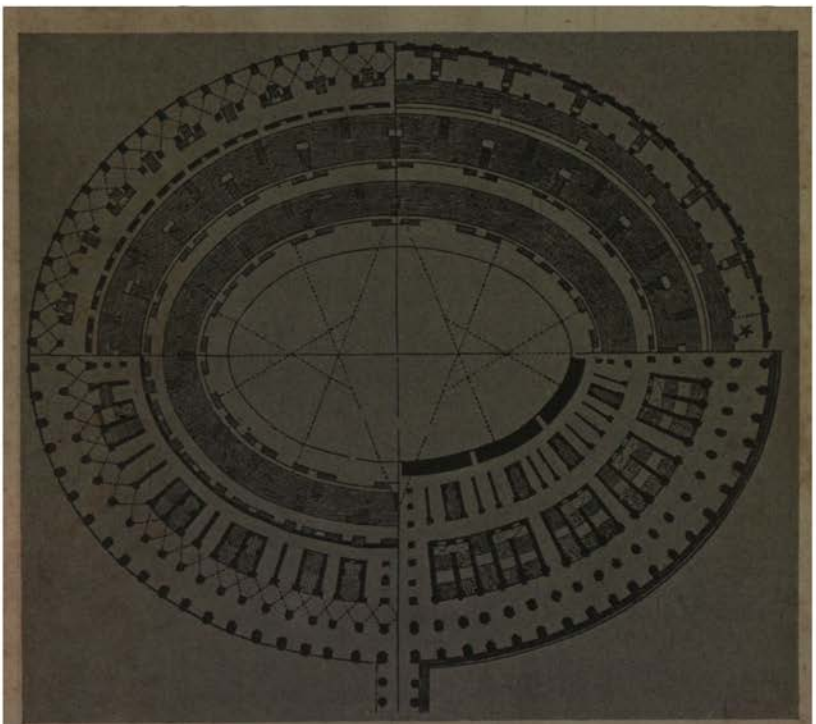


FIG. 24. Ground plan of the Colosseum.

substructures forming a system of passages and chambers, in which wild beasts were kept and raised by elevators through trap-doors during the *venationes*. There is also an elaborate system of drains; but it is a mistake to suppose that these were used in connexion with sea-fights (*naumachiae*, see below), for these were not held in the amphitheatre. The arena was separated from the *cavea* by a *podium* faced with marble. Upon this were placed the seats (*subsellia*) reserved for dignitaries of State and Church. The

The often repeated statement that the Palazzo Farnese was built of travertine taken from the Colosseum appears to be incorrect.

boxes occupied by the emperor (*cubiculum*) and presiding magistrate (*editoris tribunal*) were at the extremities of the minor axis of the ellipse. The main building (*cavea*) has a façade 48½ metres high, divided into four stories. The three lowest of these consist of rows of open arcades, separated by pillars with engaged columns of the Doric, Ionic, and Corinthian orders supporting an entablature and attic. The two lower attics have projections serving as pedestals for the columns of the upper arcades: the third is pierced with small windows over every second arch, and above it is a solid wall adorned with flat Corinthian pilasters carrying an entablature. Between each second pair of pilasters is a window, and above the level of the windows is a row of brackets, three between each pair of pilasters, with sockets for the masts which carried the awnings (*velaria*) that protected the spectators from sun and rain. Of the eighty arches of the lower arcade the four at the extremities of the two axes, which formed the main entrances, bore no numbers; the rest were numbered I to LXXVI. Parallel with the outer wall were two inner walls with corresponding arches on the lower floors, forming with it double arched corridors running round the entire building: the inner corridor on the second story is divided horizontally into an upper and lower passage, and flights of steps leading from the upper corridors give access to the top story. Within the corridors just mentioned is a system of radiating walls corresponding in number with the piers of the arcade, pierced by openings which form two further corridors round the building: they also contain staircases leading to all parts of the *cavea*, upon the sloping floor of which rows of marble seats (*gradus*) were placed. The openings by which the *cavea* was entered were called *vomitoria*. All trace of marble has long since disappeared from the building, and only the shell remains. It is thus a matter of conjecture how the upper tiers of seats should be restored. We possess in the Acts of the Arval brotherhood (p. 285) a copy of the document (dated A. D. 80) by which seats were granted to the college in the newly built amphitheatre. We learn from this that there were two *maeniana*, which undoubtedly correspond with the two lower divisions of seats; and above these a third *maenianum in ligneis*. All that remains above the two lower *maeniana* is a brick wall with doors, niches, and windows: and the most probable hypothesis is that this was immediately surmounted by a Corinthian colonnade, which protected the third *maenianum*, supported on a wooden framework.[1] The roof of this colonnade also accommodated spectators, and above it was a narrow terrace supported by consoles and arcades, which was no doubt reserved for the sailors of the fleet who worked the awnings. The seating accommodation is estimated by Huelsen at 40,000 to 50,000; the phrase *capit loca* LXXXVII

[1] The reconstruction due to Canina, who placed the colonnade in front of the uppermost row of seats, cannot be reconciled with the extant remains. Durm proposes to omit the colonnade altogether.

of the *Notitia* is to be explained as in the other instances of its use (see p. 125).

A large number of amphitheatres, more or less well preserved, exist in Italy and the provinces. Those of Capua and Puteoli are of special interest from the fact that the substructures of the arena have been excavated. Fig. 25 shows the interior of the amphitheatre at Pozzuoli (Puteoli) with the openings giving access to the subterranean chambers. In the centre of the arena was a broad passage approached by steep ramps from the outer portico of the building.[1] This was unroofed for a length of 45 metres, and covered with a

FIG. 25. Interior of the Amphitheatre of Puteoli.

temporary floor during the performances, except when the *pegma* (v. *infra*) was employed. The central portion of the substructures was formed by compartments of irregular shape communicating by trapdoors with the arena. An elliptical corridor ran round the arena at a distance of 3½ metres from the wall of the *podium*, and upon this opened a series of small chambers in two stories where the cages containing wild beasts were kept in readiness for the *venationes*; in the roof of the corridor were a series of 46 trap-doors, whose framework is generally well preserved (cf. Fig. 25). The cages were pushed under these openings, those of the upper floor on to temporary wooden platforms supported on projecting corbels, and then raised by means of wooden stages (*pegmata*). The upright timbers passed through

[1] There were also side-passages on the line of the minor axis leading to staircases; but these have not been completely excavated.

holes in the roofs of the chambers and were planted in the ground. There is a channel by which water could be conveyed into the substructures from a neighbouring aqueduct, and it is supposed that in its original form the amphitheatre was used for sea-fights: but this would no longer have been possible when the existing substructures —which seem to date from the Antonian period—were completed.

The Campanian amphitheatres are probably the earliest in date of those outside Rome. In Southern Gaul we have two fine examples—at Nîmes and Arles—of a type created by the local school of architecture. In both of these there are only two stories of arcades with wide openings, between which are pilasters or half-columns over which the entablature is returned. The lower tiers of seats are well preserved, and there is no good reason for assuming that there was a colonnade running round the upper story. The outer corridors are roofed with a series of barrel vaults corresponding with the arcades. The amphitheatre of Thysdrus (El-Djemm in Tunis) resembles in its external façade the Colosseum, except that of the three orders the upper and lower are Corinthian and the middle is Composite. Later than these are the amphitheatres of Verona and Pola. Of the latter little remains but the outer shell (Pl. XXIII), with two ranges of wide arcades and a third story with windows: at Verona there seem to be clear indications of an upper colonnade, such as has been assumed for the Colosseum. The seats have been largely restored in modern times.

Circi. The remains of the circi built by the Romans are insignificant in comparison with those of their amphitheatres; nor does Vitruvius deal with the rules of their construction, at least in the extant portions of his work. The descriptions and allusions of ancient writers, however, enable us to form a fairly accurate conception of the *Circus Maximus* at Rome and similar buildings, and the chariot-races themselves are represented on numerous works of art, especially sarcophagi, from which many details can be gathered. It is natural to suppose that the Roman circus was modelled in form upon the Greek hippodrome, and according to a tradition followed by Tacitus (*Ann.* xiv. 21. 2), horse-racing was introduced to the Romans by the Greeks of Thurii; but it is possible that the Etruscans played the part of middlemen in this matter. It is, however, certain that the circus in its final shape differed in several respects from the hippodrome.

The earliest and most important example is the Circus Maximus at Rome, which occupied the valley (*Vallis Murcia*) between the Palatine and Aventine Hills, a narrow tract of ground drained by the brook now known as the Marrana. According to the statements of Livy (i. 35. 5) and other writers, a permanent structure of wood was raised by Tarquinius Priscus when the *Ludi Romani* (chap. VII, § 1) were first instituted; but it is unlikely that buildings on an important scale were set up before the fourth century B. C., when—apparently in 366 B. C.—the *Ludi Romani* became an annual festival (cf. p. 351). Permanent *carceres* are said to have been

Roman Amphitheatre at Pola.

erected in 329 B. C.; in the second century we hear of statues and a monumental arch (erected in 196 B. C. by L. Stertinius) being added to the decoration of the circus; and in 174 B. C. the censors restored various parts of the building and set up the *ovaria* (v. *infra*). A temporary protection was given to the spectators in 55 B. C. by Pompey as consul, who fenced off the *cavea* with an iron grille; in 46 B. C. Caesar enlarged the circus and substituted a channel (*euripus*) for the grille. Pliny indeed speaks (*N. H.* xxxvi. 102) of the Circus Maximus as 'built by Caesar the dictator'; but it is more probable that Augustus, who restored it after a fire in 31 B. C., set up a large obelisk from Heliopolis in 10 B. C., and erected the Imperial box (*pulvinar*), really gave the building its permanent form. Claudius adorned it with marble *carceres* and 'golden' *metae* (i.e. of gilt bronze); Nero filled up the *euripus* in order to gain more space for seats. In A. D. 81 the southern entrance was rebuilt as a triumphal arch of three bays in commemoration of Titus; while Trajan seems to have enlarged its capacity so much that in his dedicatory inscription he boasted of having made the circus sufficient to contain the whole people of Rome (*Dio* 68. 7). Finally Constantine adorned it with a second obelisk, brought from Heliopolis, the largest of all those now extant in Rome.[1]

The plan of the Circus Maximus (Fig. 26) can be reconstructed with the aid of the descriptions and representations, the fragments of the *Forma Urbis* (cf. p. 37), and the existing remains of substructures. The total length was 635 m. and the total breadth 150 m.; the *arena* measured 590 m. (=2,000 Roman feet) by 80 m. Dionysius of Halicarnassus, writing under Augustus, speaks of three tiers of seats, of which the two highest were of wood, and gives the seating capacity as 150,000; the fourth-century guide-books give the number 385,000 (other MSS. 485,000). Huelsen considers that these figures are far too high, and explains them on the analogy of the amphitheatre (v. *supra*, p. 133). He estimates the seating capacity of the Circus of Augustus at 55,000 to 60,000, and supposes that Trajan increased it by vaulting over the adjoining streets. The arrangement of the seats (*spectacula, gradus*) was much the same as in the amphitheatre, the tiers being called *maeniana*, the vertical divisions *cunei*, and the passages *praecinctiones*. Externally the façade consisted in a series of arcades, which were used as shops and places of entertainment, while every third archway (see Fig. 26) contained a staircase leading to the seats. The chariots started from the *carceres* at the north end of the building. These were vaulted chambers, each large enough to hold one chariot, closed with folding grilles; the doors were separated by Herms. There were six of these on either side of the central gateway, by which the festal procession (*pompa circensis*, v. *infra*, chap. VII, § 2) entered the circus; their front formed a segment of a circle whose centre lay somewhat to the west of the major axis

[1] It stands in the piazza of the Lateran.

of the circus. Thus the chariots started in convergent directions, and the chances of the competitors (whose places were assigned by lot) were as far as possible equalized. Above the *carceres* was

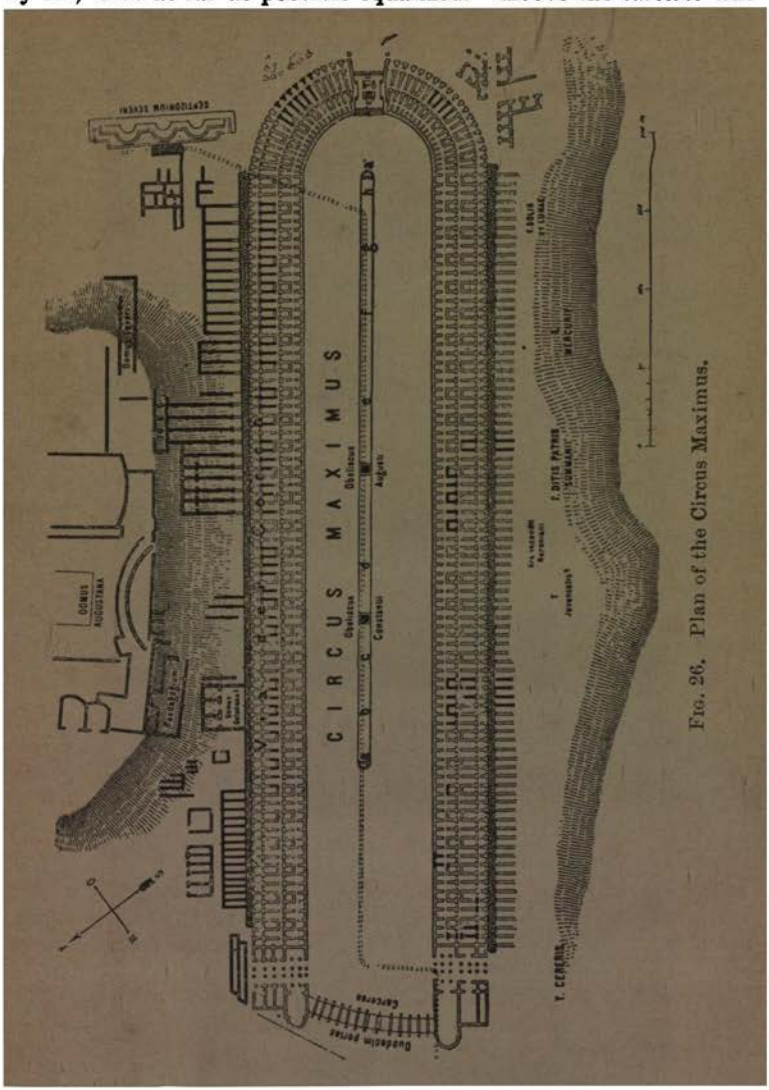


Fig. 26. Plan of the Circus Maximus.

the *tribunal editoris*, or box occupied by the magistrate presiding at the game, and there were flanking towers on either side, whence the whole structure was termed *oppidum*. The *arena* was divided longitudinally by the *spina*, which was not, however, exactly parallel to the sides of the circus, but had a slight inclination

from north-east to south-west, in order to prevent the crowding of chariots at the start. The extremities of the *spina* were marked by the *metae*, cones originally of wood, later of gilt bronze. The *spina* itself carried stands supporting six dolphins and six *ova*, one of which was removed as each lap of the race was completed. It was moreover adorned with the two obelisks mentioned above and with a number of honorary statues; and certain chapels (*sacella*) of great antiquity were incorporated with it. It is represented with rough accuracy on a mosaic now at Barcelona.

Beside the Circus Maximus, Rome possessed the Circus Flaminius, built in 221 B.C., apparently for the celebration of the *ludi plebeii* (p. 351). Its site was in the Campus Martius, where considerable remains were to be seen as late as the sixteenth century. In the Horti Agrippinae (Map 3) was the *Circus Gai et Neronis principum*, as it is called by Pliny, the traditional site of the Christian martyrdoms in A.D. 64. The obelisk which stands in the Piazza of St. Peter's marked the site of the *spina* until 1586.

There seem to have been no other circi in Rome itself; but to the left of the Via Appia, somewhat more than two miles from Rome, stands the circus dedicated by Maxentius in A.D. 309 to his deified son Romulus. This, the best-preserved of all ancient circi, was 520 m. in length and 108 m. in breadth, while the *arena* alone measured 485 m. by 84 m. In plan it was no doubt copied from the Circus Maximus. The *gradus* are interrupted by two *pulvinaria*, one in the north side—close to the finish, which was no doubt reserved for the Imperial party—the other in the middle of the south side. The obelisk which once stood on the *spina* was removed to the Piazza Navona in 1650; one of the *metae* is now in the Villa Albani.

There were also in the neighbourhood of Rome the Circus of the Fratres Arvales at the grove of the Dea Dia, which is often mentioned in inscriptions, and that of Bovillae, considerable remains of which were brought to light in 1823. This building measured 335 × 70 m., and the arena 320 × 60 m. The *carceres* are well preserved, and the *gradus* number six. The remains of circi in Italy and the provinces (e.g. at Vienne and Carthage) are insignificant.

BOOKS FOR REFERENCE.

DAREMBERG-SAGLIO, s.v. Amphitheatrum, Circus.
PAULY-WISSOWA, s.v. Amphitheatrum, Flavium Amphitheatrum (Huelsen).

§ 8. PUBLIC LIBRARIES.

The Romans were slow to follow the example of the Hellenistic kings who founded the great libraries of Alexandria and Pergamon. Caesar planned the formation of two collections, one of Greek, the other of Latin books, and enlisted the services of the great encyclopaedist, M. Terentius Varro, for the execution of his design, which was, however, never carried into effect. Soon after his

death, Asinius Pollio celebrated his victory over the Parthians (39 B.C.) by building a public library in the *Atrium Libertatis*, which he restored with the spoils of the war.[1] In 28 B.C. Augustus founded his famous Palatine library in the precinct of Apollo Palatinus (Map 6), in which Greek and Latin books were separately housed;[2] it seems to have been destroyed by fire, either under Commodus (A.D. 192) or in A.D. 363, when the temple of Apollo was burnt and the Sibylline books (enclosed in the base of the statue) were saved with difficulty. He also formed a library in the Porticus Octaviae (cf. p. 108), which was burnt in A.D. 80; Domitian plundered the Alexandrian library of many books in order to replace its contents. Soon after the death of Augustus, Tiberius and Livia established a library adjoining the *templum Augusti*, which some identify (without much likelihood) with the *bibliotheca domus Tiberianae*, which was still in existence in the fourth century. It is generally supposed that the temple of Augustus is to be identified with the large building whose ruins stand behind the temple of the Castores (cf. Map 5) and the library with the building afterwards converted into the Church of S. Maria Antiqua; the plan of the so-called temple is, however, not unlike that of the provincial libraries mentioned below. Two other important libraries were founded by later emperors—the *Bibliotheca Pacis*, attached to the Temple of Peace (cf. Map 5) built by Vespasian (A.D. 75) and the *Bibliotheca Ulpia* adjoining the Forum of Trajan,[3] famous for its collection of historical archives; its contents were afterwards transferred to the Baths of Diocletian.

The example of the emperors was followed in many towns in Italy and the provinces, where the erection of a public library was often due to the munificence of wealthy citizens. The younger Pliny tells that he built a library for his native town of Comum at a cost of 1,000,000 sesterces, and bequeathed 400,000 sesterces to provide for its upkeep; and we learn from an inscription that a benefactor, whose name is not preserved, contributed 170,000 sesterces for a like purpose. We can form some idea of the aspect of such buildings from the remains of the municipal library of Thamugadi (Timgad, cf. p. 26) discovered in 1901, which is shown by an inscription found therein to have been erected at the expense of a certain M. Julius Quintianus Flavius Rogatianus, who bequeathed the sum of 400,000 sesterces for this object. The building (see Plan, Fig. 27) was approached by

[1] The *Atrium Libertatis*, which stood in the neighbourhood of the Senate-house, contained the office and archives of the Censors. Its precise position is not known.

[2] If, as has recently been suggested, the temple of Apollo Palatinus is to be found, not at the north-east angle of the Palatine, but on the face which overlooks the Circus Maximus (Map 6), we might identify these libraries with the two apsidal rooms to the west of the Domus Flavia.

[3] The Greek and Latin libraries seem to have been at either end of the rectangular court between the *Basilica Ulpia* and the Temple of Trajan, in the centre of which the column stood.

steps (almost entirely destroyed) from the *kardo maximus* of the city, which led up to a court surrounded on three sides by a colonnade or *porticus*; we are reminded of the fact that most of the libraries at Rome (such as those in the precinct of Apollo Palatinus and that of the *porticus Octaviae*) were adjacent to such colonnades. From the outer court a gateway leads into the

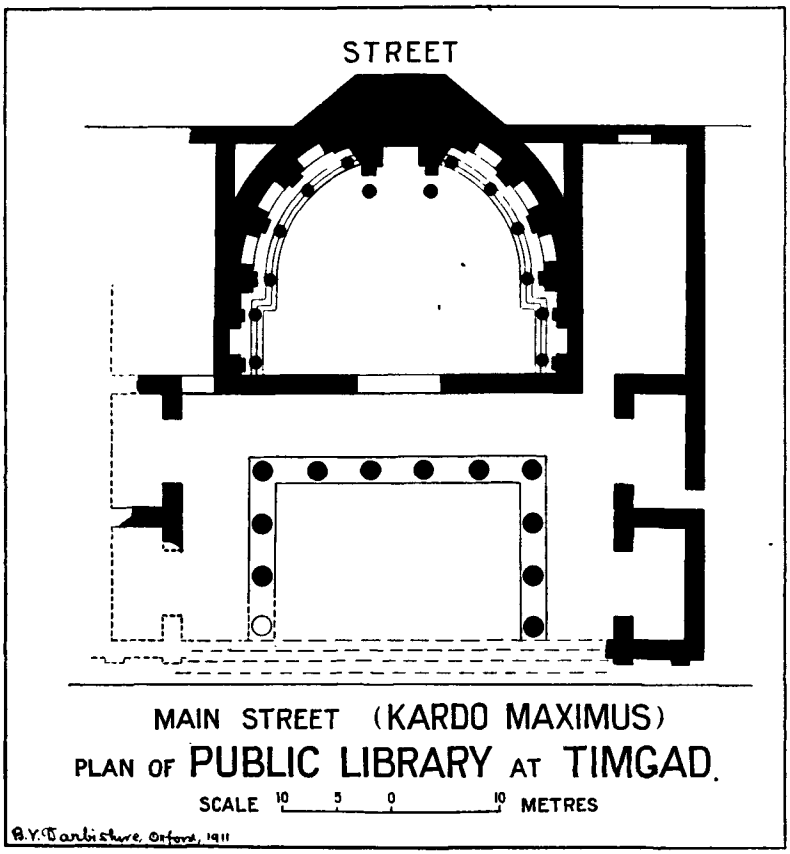


FIG. 27.

library proper, a large semicircular hall, in the centre of which is a niche flanked by columns, evidently intended to receive a statue, which we may suppose to have been that of Minerva; a head, in fact, which may have belonged to such a statue was found at no great distance. Round the edge of the hall ran a raised platform approached by two steps, on which stood a range of columns corresponding with pilasters in the wall, and between these were rectangular niches, doubtless for the cupboards in which the rolls

were kept (*bibliothecae parietibus inhaerentes*). The columns no doubt supported a gallery which gave access to an upper row of bookshelves. A library of much the same type,[1] also dating from the Roman period, has been unearthed at Ephesus; it was built by one Ti. Julius Aquila Polemaeanus, who bequeathed to the city the sum of 25,000 *denarii* to provide for its upkeep and the purchase of books. It is possible that a building opening on the Forum of Pompeii[2], which consists of a large square court faced by a deep semicircular bay with niches in its walls, may have been the public library of the town. A number of small rooms connected with the main building may then be regarded as reading-rooms and bookstores.

BOOKS OF REFERENCE.

CAGNAT, *Les Bibliothèques municipales dans l'Empire romain* (Mémoires de l'Académie des Inscriptions, vol. xxxviii).

§ 9. AQUEDUCTS, SEWERS, AND DRAINAGE-WORKS.

The long lines of arches which traverse the Roman Campagna and the gigantic structures raised by Roman builders in the western provinces, such as the Pont du Gard at Nîmes (Pl. XXV) and the aqueduct of Segovia, are amongst the most familiar and imposing remains of ancient architecture. They are, however, remarkable, not as triumphs of engineering skill, but as examples of the Roman practice of surmounting difficulties by enormous expenditure of labour and the Roman passion for monumental construction. The Romans were, as the statements of Vitruvius (viii. 6. 5; 7. 6) and Pliny (*N. H.* xxxi. 57) show, perfectly acquainted with the law that water finds its own level; but they did not as a general rule (for exceptions, *infra*, p. 150) apply it in practice by laying down pipes through which water might be conveyed at high pressure across the depressions intervening between its source and its destination. Yet examples of such a practice were furnished in considerable numbers by the works of Hellenistic engineers in the Near East. It has been shown that most of the larger cities of Asia Minor—Pergamon, Smyrna, Apamea, Laodicea ad Lycum, and many others—were provided by their Hellenistic rulers with supplies of water conveyed in underground pipes at high pressure. In supplying the city of Rome, however, water was brought from the hills of the Campagna at low pressure, and whether conveyed on arches or underground, the channel was ventilated by shafts at frequent intervals. It may be that as the hard water of the Sabine Hills rapidly encrusted the walls of its channel with a calcareous deposit, the Romans preferred a system which made regular cleaning feasible.

[1] It is approached by a flight of steps and a portico with niches for four statues; three of these represented Ἐπιστήμη, Σοφία and Ἀρετή.

[2] It has been thought to be the *Lararium publicum* of the town.

The history and management of the Roman aqueducts are well known to us through the technical treatise of Sextus Julius Frontinus, who held the office of *curator aquarum* under Nerva and Trajan. In his time nine out of the eleven principal aqueducts were already in existence.

1. The *Aqua Appia* takes its name from Appius Claudius Caecus, the censor of 312 B.C. and builder of the *Via Appia*. Its sources lay near the river Anio, 780 paces from the Via Collatina, between the seventh and eighth milestones. Frontinus gives its length as 11,190 *passus* (about 16½ km.); but the channel was subterranean except for 60 *passus* (89 m.), where it crossed the valley between the Caelian and the lesser Aventine near the Porta Capena (Map 3). Remains of the channel have been found in several spots on the Aventine.

2. Forty years later (272–269 B.C.) the proceeds of the spoil of Pyrrhus were devoted to the construction of an aqueduct which drew its supply from the river Anio, about 10 miles above Tibur (hence called the *Anio vetus*). It was commenced by the censor M. Curius Dentatus, and finished by special commissioners (*II viri aquae perducendae*). Its length is given by Vitruvius as 43 Roman miles (63⅔ km.), but the inscriptions of its *cippi* found near Tivoli show that this is a low estimate. This great length is due to the windings of the channel, which was wholly subterranean except for 221 *passus* (327 m.) just outside the city, where it was carried on a *substructio supra terram*.

These two aqueducts entered Rome at or near the ground level '*ad spem veterem*', i.e. near the Porta Maggiore (Map 3). From thence the *Aqua Appia* was carried along the Caelian to the Aventine and ended near the Tiber, while the *Anio vetus* supplied the Esquiline (where it has been laid bare at several points), following the line of the Servian wall and agger to the Porta Esquilina. Its water was unsuitable for drinking, and was eventually used only for irrigation and drainage.

3. The first high-level aqueduct was the *Aqua Marcia*, named after the praetor Q. Marcius Rex, to whom the Senate in 144 B.C. committed the task of repairing the existing aqueducts and constructing a new one to meet the needs of the growing population. Its source was in the Sabine mountains, near Arsoli, on the right bank of the Anio, about 270 metres above the level of Rome and 36 miles distant. The length of the aqueduct was 61,710·5 *passus* (91⅔ km.), and of this 7,463 *passus* (11 km.) were above-ground and were perhaps carried on arches. It followed the valley of the Anio to Tibur, whence its course was practically the same as that of the *Anio vetus*. Its bridges and tunnels are to be seen in many places near Tivoli. Owing to its higher level it was found capable of supplying the Capitol with water. This aqueduct was restored by Agrippa and doubled in volume from fresh sources by Augustus, as he records in the *Monumentum Ancyranum*, and additional branches were built by Nero and Trajan (to the

Aventine), by Caracalla for the supply of his baths (*Aqua Antoniniana*), and by Diocletian for the like purpose (*Aqua Martia Iovia*).

4. The last of the Republican aqueducts was the *Aqua Tepula*, fed by volcanic springs in the Alban Hills between Frascati and Rocca di Papa. It was built by the censors of B.C. 125 (Cn. Servilius Caepio and L. Cassius Longinus), and derived its name from the temperature of its source (about 62° F.). Its original course is uncertain.

The establishment of the Empire was marked by the construction of three fresh aqueducts, the work of Augustus and Agrippa.

5. In 33 B.C. Agrippa tapped a series of volcanic springs at a somewhat higher level than those of the *Tepula* and nearer to Grottaferrata. These fed the *Aqua Iulia*, which was connected with the *Aqua Tepula*, at a point about 15½ km. from Rome. For nearly 7 km. the two flowed together (in the proportion of one [*Tepula*] to three [*Iulia*]), and as the springs of the *Iulia* were colder than those of the *Tepula*, the resultant temperature was about 53° F. At the sixth milestone the aqueduct was once more divided into two channels (in the same proportion) and both were conducted to Rome on the arches of the *Aqua Marcia*. The three superposed channels may be seen at the Porta Maggiore. Both the *Iulia* and *Tepula* were distributed on the Esquiline, and there are considerable remains of the *Castellum* of the *Iulia* as rebuilt by Alexander Severus (Map 3).

6. In 21–19 B.C. Agrippa constructed the *Aqua Virgo*, said to have taken its name from the fact that its springs (near the eighth milestone from Rome on the Via Collatina) were pointed out by a girl, in order to supply his thermae in the Campus Martius. Its length was 14,105 *passus* (nearly 21 km.) of which 12,865 *passus* (19 km.) was underground, and of the rest 700 *passus*, almost wholly within the city, were carried on arches, remains of which still exist, notably in the Via del Nazzareno, where an inscription recording a restoration by Claudius in A.D. 52 is preserved.

7. About A.D. 10 Augustus built the *Aqua Alsietina*, supplied by the Lacus Alsietinus (Lago di Martignano), to supply his *naumachia* (cf. p. 367) on the right bank of the Tiber. Its length was 22,172 *passus* (nearly 33 km.), of which 358 were carried on arches, but its water was unwholesome and was not used for drinking.

Agrippa, moreover, restored the Republican aqueducts, while (as was mentioned above) Augustus in 57 B.C. increased the volume of the *Aqua Marcia* by building a branch about 1,200 metres in length which tapped a fresh source. Some *cippi* bearing inscriptions of the Augustan period, and relating to the Anio Vetus and Marcia as then restored, are extant.

8. In the reigns of Caligula and Claudius the finest of the Roman aqueducts was added to the number. This was the *Aqua Claudia*, begun in A.D. 38 and opened Aug. 1, A.D. 52,[1] having

[1] So we read in the inscription on the Porta Maggiore; but Tacitus (*Ann.* xi. 12) dates its completion in A.D. 47.

cost 55½ millions of sesterces. It was drawn from springs in the valley of the Anio near those of the Marcia, and, after skirting the hills near Tivoli (where Domitian shortened its course by building a tunnel 5 km. in length), it finally emerged from the ground about 12 km. from Rome, whence it was carried for about 1 km. on substructures and for the remainder of its course on the fine series of arches which form a conspicuous feature in the scenery of the Campagna. Its length was 46,406 *passus* (68¾ km.); about 15 km. was above ground.

9. The *Anio novus*, built at the same time as the *Claudia*, was drawn from the river Anio below Subiaco, about 42 miles from Rome. Its water was muddy and scarcely drinkable, although it was collected in a purifying reservoir (*piscina limaria*) and improved in quality by the admission of a branch (*rivus Herculaneus*) about four miles from its head. It ran parallel to the *Claudia*, and was carried on the same arches in the latter part of its course (cf. Pl. XXIV). Its length was 58,700 *passus* (nearly 87 km.), of which 49,300 *passus* (nearly 73 km.) were below ground.

Near the Porta Praenestina the double aqueduct entered Rome and was carried north-west to the distributing station, when the water of the two sources was mixed. From the angle Nero built a branch of the Claudia (*arcus Caelemontani*) to the buildings of Claudius on the Caelian, some of whose brick arches are still standing. From the Caelian Domitian carried the supply to the Palatine by means of a siphon, for which Septimius Severus substituted an aqueduct with four tiers of arcades, about 430 m. long and 43 m. high. Remains of the two lower tiers exist on the lowest slope of the Palatine. Trajan improved the quality of the water supplied by the *Anio novus* by using the artificial lakes created by Nero at his villa at Subiaco as filtering tanks, and thus increasing the length of the aqueduct to about 47 miles. To the nine aqueducts existing at the close of the first century two only were added by later emperors.

10. In A. D. 109 Trajan constructed the *Aqua Traiana*, drawn from sources near the Lacus Sabatinus (Lago di Bracciano) for the supply of the Transtiberine district. Its channel, which was wholly subterranean, ended in the *Castellum* on the Janiculum whose site is marked by the fountain of Paul V, who restored the aqueduct in 1611 as the *Aqua Paola*. Its length was about 57¾ km.

11. In A.D. 226 Severus Alexander built the *Aqua Alexandrina* for the supply of his thermae in the Campus Martius. Its sources lay near the Via Praenestina between Gabii and Lake Regillus; its length appears to have been about 22 km., of which more than one-third was above-ground.

We learn much about the history and administration of the Roman aqueducts from the treatise *De aquis* of Sex. Julius Frontinus, a distinguished official, who was three times consul, and was appointed *curator aquarum* by Nerva. The aqueducts, during the Republican period, normally belonged to the department of the

The Aqua Claudia and Anio Novus.

aediles, although the censors when in office undertook works in connexion with them, and under exceptional circumstances quaestors acted as water-commissioners. The maintenance of the aqueducts was farmed out to contractors, whose work was inspected by the above-named magistrates. When Agrippa, in 33 B.C., built two new aqueducts and restored those already in existence, he formed a *familia* or body of slaves, 240 in number, which he maintained until his death in 12 B.C. to keep the fabrics in repair. This *familia* he bequeathed to Augustus, who handed it over to the State, and it was henceforth maintained at the expense of the *aerarium*, which received the rents paid by private persons for water supplied to them. In 11 B.C. a board of *curatores aquarum* was established. It consisted of three members, all of senatorial rank, the chief commissioner being a *consularis*, M. Valerius Messalla Corvinus; and this continued to be the rule. Claudius, when he completed the Aqua Claudia and Anio Novus, formed a new *familia Caesaris*, 460 in number, maintained at his own expense, and appointed a *procurator aquarum* responsible to himself. Thus the management of the water-supply was brought under Imperial control, and no doubt as a rule the Imperial officials kept it in their own hands. The senatorial *curator*, however, continued to enjoy an important position, and when the office was held by a man of unusual talent and energy, such as Frontinus, he was able to accomplish much-needed reforms by asserting his authority over the permanent officials. The office of the commissioners (*statio aquarum*) was in the precinct of Juturna adjoining the Forum (Map 5).

For the technical details of the construction of aqueducts the information given by Frontinus is supplemented by a chapter in Vitruvius (viii. 6). At the intake a reservoir was formed which served as a settling-tank (*piscina limaria*). Hence the water was conveyed in a closed channel (*specus*), which in earlier times was built of masonry, in later of brick and concrete, but was always lined with hydraulic cement made of lime, *pozzolana* and pounded pottery (*opus Signinum*). The dimensions of the *specus* varied considerably; the following table shows the size of the *specus* in the case of the eleven great aqueducts of Rome:

1.	Appia	1·5 × ·75 m.
2.	Anio Vetus	2·4 × 1·1 m.
3.	Marcia	1·75 × 2·53 m.
4.	Tepula	1 × ·9 m.
5.	Julia	1·4 × ·7 m.
6.	Virgo	2 × ·49 m.
7.	Alsietina	1·78 × 2·67 m.
8.	Claudia	1 × 2 m.
9.	Anio Novus	1 × 2·74 m.
10.	Trajana	2·32 × 1·3 m.
11.	Alexandrina	1·71 × ·73 m.[1]

[1] The measurements of Nos. 7, 10, 11 are those of Lanciani; of the others, those of Herschel.

The *specus* was furnished with ventilation shafts (*lumina, putei*), which served for purposes of inspection where the course of the aqueduct was subterranean. Vitruvius recommends that these should be 120 feet (one *actus*) apart. In some aqueducts, e. g. the Aqua Julia, the interval is 240 feet (two *actus*). It was thus easy for workmen to enter the *specus* for purposes of cleaning and repair, and this was especially necessary in consequence of the incrustation formed by the hard water drawn from the Sabine hills. In many parts of the Campagna the original course of the aqueducts (where destroyed) can be traced by the presence of large lumps of carbonate of lime thrown out by the cleaners (*circitores*). The *specus* was carried partly underground—that of the Aqua Appia was as much as 50 feet below the surface—partly on a substructure of masonry (*substructio*) and partly on arches (*arcuatio*). Where necessary, tunnels were driven through hills which could not easily be skirted. An inscription from Lambaesis (*C. I. L.* viii. 2728=Dessau 5795) records the construction of such a tunnel in the years A. D. 148–52 for the supply of water to Saldae (mod. Bougie). The tunnel which, as the remains show, was 428 metres in length and 86 below the surface, was constructed by the auxiliary troops commanded by the procurator of Mauretania according to the designs of a military engineer lent by the governor of Numidia, but owing to lack of technical knowledge the alignment of the two galleries was not preserved and they had eventually to be connected by a traverse. The most important work of this nature in the Campagna is the tunnel completed July 3, A. D. 88 to shorten the course of the Aqua Claudia near Tivoli. This is three miles in length, and was the work of a contractor, L. Paquedius Festus, who restored a temple on the summit of Monte Affliano (through which the tunnel passed) in order to celebrate his achievement.

When the *specus* was carried on arches, it was natural to superpose more than one channel. On Pl. XXIV may be seen the stone arches of the Aqua Claudia with an opening in the *specus*, above which are the remains of the brick-and-concrete channel of the Anio Novus. It will be seen that two tiers of brick-and-concrete arches have been built in at a later date beneath those of the Aqua Claudia. Such inserted arches served to support the original structure and perhaps also to prevent leakage. Where it was necessary to span great heights, tiers of arches were used, as in the case of the Pont du Gard (Pl. XXV) which carries a road as well as the *specus* of an aqueduct (in the highest tier).[1] In Spain and Africa single arches of great height sustained by inserted arches were common; the aqueducts of Caesarea (Cherchel) in Numidia and Merida (Emerita) in Spain furnish examples of this system.

[1] The length of this aqueduct is 900 ft., its height 160; the width of the uppermost tier is 10 ft. The great aqueducts of Segovia (length 818 m., height

By these methods of construction it was possible to convey water by a continuous and a gentle slope for long distances. Vitruvius recommends the gradient of 6 inches in 100 feet (1 : 200), but the gradients of the Roman aqueducts are in fact far gentler than this. Herschel estimates the fall of the Anio Vetus as 2 : 1000 from Tivoli to Gallicano, 1 : 1000 from Gallicano to Porta Maggiore, and 4 : 1000 within the city. The *libratores*, or levellers, seem to have had no conception of the possibility of a fall by steps in the case of aqueducts, although Pliny—who, as governor of Bithynia, was forced to borrow a *librator* from his colleague in Moesia—is well aware of the principle as applied to water flowing in the open (*Ep. ad Trai.* 61).

When the aqueduct reached its destination, its waters were collected in a *castellum* or distributing-station. Vitruvius directs that in connexion with such a *castellum* there should be built a *triplex immissarium*, with three pipes for the supply of (1) public fountains, (2) public baths, (3) private houses; and there has been discovered at Pompeii a small *castellum* with an ornamental façade belonging to the Augustan period in which the water is divided into three parallel channels. In Rome the number of *castella* was very large, for the supply of water to private persons was subject to strict regulation.[1] The right to draw water from the aqueducts was granted by the emperor to individuals on petition, and lasted only for the life of the grantee (although the law was so far relaxed that where a syndicate was concerned the grant did not lapse until the death of the last survivor). The supply was made only from a *castellum*, and it was unlawful to tap the *specus* at intervening points. It was limited in quantity by the size of the orifice inserted, a bronze pipe or *calix* by which the water was conveyed into the private pipes (*fistulae*) of the grantee, which might not exceed a *quinaria* (v. *infra*) in size for the space of 50 feet. The pipes used in private houses were generally of lead, although Vitruvius and Pliny mention pipes of earthenware and wood. Vitruvius, indeed, speaks of the danger of poisoning from the use of lead pipes; but there was in fact no such risk, since the lead became quickly coated with an insoluble calcareous deposit. Enormous numbers of such pipes have been found, often stamped with the date, the names of the maker and owner, or a record of the Imperial grant. The lead was cast in sheets 10 feet long, and these were cut up into strips of varying width and rolled into pipes of pear-shaped section soldered at the joint with pure lead.

The Romans regarded the flow of water as proportionate to the

31 m., number of arches 109) and Tarragona (length 211 m, height 30 m., 25 arches) have double tiers of arches.

[1] Even the use of overflow water (*aqua caduca*) was not permitted without a special grant, either in Rome (as Frontinus tells us) or in other towns v. the charter of the Colony of Urso in Spain, c. 100). The right of drawing water was in some cases assigned to several proprietors at different hours; see *C. I. L.* vi. 1261, viii. 448.

The Pont du Gard.

area of the cross-section of the pipe: no account was taken of the velocity of the current, nor did they form any conception of the volume discharged in a given time. Area was measured in different ways, e. g. by square or round inches or digits ($\frac{1}{16}$ of a foot); but the conventional unit under the Empire was the *quinaria* (sc. *fistula*), i. e. the discharge from a circular pipe whose diameter was five-fourths of a digit (area in section ·632 sq. in.). Thus the volume of water supplied by the various aqueducts is estimated by Frontinus in *quinariae*, calculated from the sectional area of their *specus*. Pipes of larger size than the *quinaria* were similarly named (*senaria*, *septenaria*), &c., according to the number of quarter-digits (*quadrantes*) in diameter, up to the *vicenaria*; after this the number of square digits in the area of the cross-section gave the name to the pipe.

It is evident that if the *personnel* of the water-commissioners' office were negligent or corrupt, fraud was easily practised in the distribution of water, and the treatise of Frontinus contains many references to such frauds, which he did his best to prevent. Outside Rome the aqueducts were (with the connivance of the *aquarii*) tapped by the owners of property in the Campania for the supply of their villas and the irrigation of their gardens. In the city itself favouritism and fraud were common in connexion with the invention of *calices* for private supply; while the mains passing under paved streets were frequently tapped.

The total volume of water supplied to Rome has been very variously estimated. It is clear that the data given by Frontinus are of very small value, since (as was shown above) they take no account of the laws of hydraulics, and the modern estimates based on them, which are in some cases as high as 350,000,000 gallons *per diem*, are thus of little value. Herschel puts the supply at 38,000,000 gallons, which is perhaps too low.

It was mentioned above that high-pressure aqueducts were sometimes constructed by Roman engineers. We find an example of such at Alatri (Aletrium), which we can date approximately to the early years of the first century B. C. by means of an inscription (*C.I.L.* i. 1166 = x. 5807, Dessau 5348) recording the public works carried out by a certain L. Betilienus Varus. The water-supply was collected, as it would seem, in a reservoir on a hill facing that on which Alatri stands, and conveyed in an open channel into the lead pipes (*fistulae solidae*) by which it passes at high pressure through the intervening valley, about 100 metres in depth. The thickness of the pipes varies from 10 to 35 millimetres, probably in proportion to the strength of the pressure; the diameter of the opening is 10 centimetres. In the provinces the most important example of the high-pressure system is found at Lyons. The colony of Lugdunum (Lyons) was supplied with water by three aqueducts. The first, 20 km. in length, was possibly the work of Mark Antony; the second was constructed by Agrippa and Drusus, and crosses a valley by means of a high-

pressure conduit formed of rectangular blocks of stone cemented together. Under Claudius a third aqueduct was built, 50 km. in length, in order to supply the higher parts of the hill on which Fourvières stands: this is carried across a valley at high pressure in lead pipes 18–20 feet long by means of a bridge.

Sewers (*cloacae*). Systematic drainage seems to have been rare in Greek cities, save the great Hellenistic capitals, but was found in Etruscan towns, such as Marsabotto, where the surface-drainage of the streets is carried away by sewers; and there is no reason to doubt that the most famous of Roman sewers—the *Cloaca Maxima*—was in its origin a work of the Regal period and probably of Etruscan builders. The natural drainage of Rome—so far as it lies on the left bank of the Tiber—is collected by three streams.

1. The *Petronia amnis* rose at the head of the depression between the Pincian and the Quirinal and emptied itself into a marsh in the Campus Martius, where it was joined by a second brook rising on the western slope of the Quirinal.

2. The *Spinon*, rising between the Viminal and the Esquiline and fed by various tributaries, flowed down the Subura, crossed the Forum and passed through the Velabrum into the Tiber. The lower part of its course was swampy.

3. From both sides of the Caelian flowed streams which united at the head of the Vallis Murcia (afterwards occupied by the Circus Maximus) and flowing down that valley discharged into the marsh formed by the *Spinon*. The name of this stream was probably *Nodinus*.

The three main sewers of ancient Rome arose from the regulation of these natural water-courses; and the earliest of the three was the *Cloaca Maxima*, whose original course has been determined by the recent excavations in the Forum, which have shown that the enlargement of the Basilica Aemilia (p. 104) in 34 B.C. necessitated a change in the direction of the *Cloaca*; the earlier sewer runs obliquely athwart the northern portion of the basilica, and the walls of the later channel (which was probably the work of Agrippa) rest on a pavement of the Republican period, while the crown of its vault is 1·5 m. higher than the level of the Comitium in Republican times. The earliest portions of the *Cloaca* are built in *opus quadratum* of blocks of peperino (*lapis Gabinus*) laid dry, and are paved like a road with polygonal blocks of basalt. Parts of it were open, especially in and near the Forum, where it was called *canalis* (Plaut. *Curc.* 476). Elsewhere it was roofed with a barrel-vault, as at the outfall into the Tiber. This vault cannot, however, be regarded as original. At the time when the stream was first regulated, either a corbelled vault or a roof of flat slabs would have been used. In sewers restored or constructed under the Empire concrete lined with *opus reticulatum* or tiles is usually employed, and a gabled roof of tiles is common. With the growth of the city other streams were converted into sewers, and from about 300 B.C. onwards the system of drainage was rapidly

extended. It seems, however, that private houses usually had cesspools, while the *Cloacae*—in which sewage and surface-water were carried off together—drained the streets and public buildings. Pliny speaks of Rome as a floating city (*urbs pensilis subterque navigata*, xxxvi. 24), and mentions that Agrippa rowed up the Cloaca Maxima at its mouth. This would no longer be possible, as the water-level of Rome has risen at least 3 metres.

Drainage works. The nature of the soil, throughout the lower part of the Tiber valley, presented a problem which the Romans and their neighbours were obliged to face at an early date in their history. Bordered on north and south by extinct volcanoes, the valley is covered with a deep layer of volcanic products. On the surface the soil is porous and spongy, while below is a bed of tufa which varies in colour and solidity, but is everywhere permeated with difficulty by the surface-water. Underneath this, again, are beds of *pozzolana* (chap. II, § 1), through which the waters of the surrounding hills filter steadily, and gradually force their way upwards through the tufa. All these strata are deeply furrowed with ravines and hollows, partly filled by ancient lava-streams, but largely serving as surface-drains; thus if natural processes are allowed to work undisturbed, the soil of the Campagna is at once impregnated with moisture and subject to constant erosion. Systematic drainage can alone give its natural fertility free play; and this was effected at an early date by a network of *cuniculi* which can be traced in all parts of the Campagna. These subterranean passages, which range from 1 to 2 metres in height and from $\frac{1}{2}$ to $\frac{3}{4}$ of a metre in width, are carried in all directions along the edges of the low hills, descending gradually to the lower levels where they discharge their waters either into a natural stream or an open drain (*fossa*). They are provided with air-shafts (*putei*, the apertures were called *lumina*) at frequent intervals, which served for the extraction of the soil and gave access to the *cuniculus* for purposes of maintenance and repair. Not only were large tracts of the Campagna thus rendered fit for cultivation, but smaller areas had in many cases local systems of drainage, which also served for the collection and storage of water by conveying it to subterranean reservoirs. Such a reservoir was that recently discovered in the Catacomb of Priscilla, which had been converted into a Christian baptistery, and is identified as the site where, according to the tradition of the early Church, St. Peter administered the baptismal rite. This catacomb was excavated in a villa belonging to the well-known family of the Acilii Glabriones, and the system of drainage which it exemplifies certainly continued in use until late historical times. It has been held that the more extensive *cuniculi* which drain the Campagna were made either in prehistoric times or in the period of Etruscan domination in Rome; but the argument from the silence of Roman writers is inconclusive, and the most that can be said is that the intensive cultivation of the district presupposes *some* artificial system of drainage. Moreover,

it is likely that the problem of surface-drainage was solved before an attempt was made to deal with the great natural reservoirs formed by the extinct craters in the Alban Hills. The chief of these is that partly filled by the Lake of Albano, and Roman tradition placed the construction of the *emissarium* by means of which this lake was regulated in 396 B. C.—a date which we may accept as approximately correct, while rejecting the legend which connects it with the siege of Veii (Liv. v. 13–16). The lakes of the Alban Hills feed the subsoil of the Campagna—the beds of *pozzolana*, &c., mentioned above, which underlie the tufa—and it is hardly too much to suppose that the Romans were aware of this and sought to check the excessive saturation of the soil by conveying the surplus waters of the lakes directly to the sea. The *emissarium* of the Lake of Albano, which has never ceased to perform its function, consists in a tunnel (*specus*) 2,234 metres in length, about 2 metres in height, and 1·20 metres in width. It was furnished with air-shafts at intervals of about 35 metres. The constructions at either mouth of the tunnel, which were restored in Imperial times, may still be seen. At the upper end the waters of the lake enter an oblique passage and pass through a kind of filter formed in part by a grating, in part by a perforated block of stone; they are then spanned by a bridge carrying the road which skirts the lake, and immediately enter a large chamber containing the sluices by which their flow is regulated and narrowing as it approaches the mouth of the *specus*. At the lower outlet the tunnel gradually increases in width and is vaulted with masonry; the waters again pass through sluices and are carried in an open channel for a distance of 15 miles to join the Tiber. A second and far less elaborately constructed *emissarium* provides an outlet for the waters of the Lake of Nemi. This is a roughly excavated tunnel, averaging $\frac{3}{4}$ of a metre in width, which discharges its waters by an open channel into the valley of Aricia, itself once filled by a lake, which was completely drained by a further extension of this *emissarium* in the form of a *cuniculus* 500 metres in length. The waters thus brought down from the hills form a stream, fed by other *cuniculi*, which reaches the sea not far from Ardea.

When the Romans became masters of Italy, they applied the lessons learnt in the Alban Hills in other parts of the peninsula. In the Sabine country, between Reate (Rieti) and Interamna (Terni) the waters of the Avens (Velino) fall rapidly into those of the Nar (Nera), forming a succession of waterfalls. The bed of the river and the lakes which feed it rises quickly owing to the accumulation of calcareous deposit, and causes inundations; to prevent these M. Curius Dentatus, the conqueror of the Sabines, caused a tunnel to be made in 272 B. C., which is still in use. But the most important work of this nature was the *emissarium* which gave an outlet to the waters of the Lacus Fucinus in the country of the Marsi, a lake separated by mountains from the valley of the river Liris, which flows at a distance of about 6 kilometres.

The draining of this lake, projected by Julius Caesar, was carried out as a commercial speculation in the interest of Narcissus, the favourite of Claudius; the work was but partially successful, and was carried to a conclusion in 1854–76 by Prince Alexander Torlonia. The plan was bold, but scientific in conception. A tunnel 5,595 metres in length, with a fall of 8·44 metres (about 3 : 2,000), was projected; the site was well chosen, the design of the *specus*—a vaulted channel 3 metres high and 1·80 wide, lined with brick and concrete—was suitable, and the levels were correctly determined; the actual length of the tunnel only exceeded the estimate by less than 60 metres—a remarkable fact, seeing that the use of the compass was unknown. Forty *putei* were sunk, at an average depth of 100 metres, from which the excavated material was extracted in bronze buckets by means of windlasses. A relief found near the lake shows that these were worked by human labour, not by that of oxen. Lateral *cuniculi* were also used. We are told that 30,000 men were employed for eleven years in the construction of the tunnel, and it is not hard to believe in the truth of this statement, since at least half of the boring took place in solid rock, with no instruments save chisel and hammer; the work was, moreover, interrupted by the collapse of a portion of the tunnel and an inundation of the waters of the lake, and a fresh section had to be built.

Unfortunately, the execution of the design left much to be desired. Tacitus (*Ann.* xi. 5. 6 f.) describes how the inauguration of the tunnel, celebrated by Claudius with a *naumachia* on the lake, proved a *fiasco*, while on a second occasion the rush of water caused a panic in the Imperial party. As a matter of fact, the system of chambers and sluices by which the waters of the lake are admitted to the *specus* is well adapted for its purpose; it is possible that in its present form this may be the work of Hadrian, who restored the *emissarium*. But an examination of the *specus* proves that the work was scamped by the contractors—probably in order to secure a huge profit for Narcissus—and the normal design was only carried out in parts; in some places the aperture was reduced to one-third of the estimated size. Moreover, the level of the *specus* rises and falls irregularly: and it is therefore not suprising that the level of the lake was only lowered by two instead of five metres, and that in the decline of the Empire the tunnel became entirely blocked.

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§. 10. Harbours.

Italy is not furnished by nature with many good harbours. The estuaries of her greater rivers—the Po and the Tiber—are subject to rapid accumulation of alluvial deposit; and some of her natural roadsteads, such as Antium, are rendered unfit for remunerative harbour-works by reason of their shifting sands. Few are the harbours, such as Brundisium, where a safe anchorage is provided by natural spits and promontories. The Romans were therefore obliged to face technical problems of no small difficulty when their growing commerce demanded effectual shelter in the ports of Italy.

Rome, no doubt, possessed its harbour at the foot of the Aventine from the earliest times: but this was only accessible to vessels of small draught. The traffic with the sea-coast in salt dates from the beginning of Rome's history: and the *Salinae*, or salt-warehouses, where this was deposited, became the nucleus around which grew a system of wharves and warehouses. We hear little of the growth of this. In 199 B.C. the *Emporium*, with quays and storehouses, was constructed outside the Porta Trigemina, and in 174 B.C. it was paved and enclosed. The quay-wall, with steps leading to the water's edge, was gradually extended until it reached about a kilometre in length, and its remains, which have been discovered in several places, are of varying date. The earliest portions are of *opus quadratum*, and belong to Republican times. The various sections of the harbour were known as *portus vinarius*, *portus lignarius*, &c.; and the wharves where, under the Empire, the costly marbles imported from all parts of the Empire were landed, gave to that quarter the name which it still bears. Besides the *Emporium*, Rome possessed its *Navalia*, or naval arsenal and docks. The earlier of these (which are first mentioned in connexion with the submission of the Latins in 332 B.C.) were hard by the Forum Boarium; from the second century B.C. onwards we hear of others in the Campus Martius. No trace of either remains.

The natural port of Rome is the estuary of the Tiber: and tradition speaks of the harbour at Ostia as the work of Ancus Marcius. But in the later days of the Republic such a harbour, if it ever existed, was silted up, and though warships, with their light draught, could make their way up to Rome, merchant vessels were forced to unload their cargoes at the river's mouth under very adverse conditions. Long before this time, however, Rome had created a first-class harbour at Puteoli, which Lucilius, writing in the second century B.C., describes as the 'lesser Delos'. It is natural to trace the origin of the harbour-works in this quarter to the policy which established custom-houses at Puteoli and Capua in 199 B.C. Rome, now mistress of Italy and the Western Mediterranean, was turning her eyes towards the East, from which a stream of trade already flowed to the Greek colonies in

Campania, connected by a double highway with the capital. The principal work done at Puteoli was the construction of a mole formed by fifteen piers, which were probably in origin about 16 metres square, connected by arches. The object of this was to break the force of the waves when the wind blew from the south, and though a solid mole would have been more effectual, the Romans, according to their usual practice, preferred a series of arcades. The foundations are of pozzolana concrete, which in the upper part of the piers is filled with fragments of tufa and brick: the arches and superstructure are no longer preserved. Vitruvius, in the passage where he prescribes rules for the construction of harbour-works, insists that, if possible, pozzolana (*pulvis Puteolanus*) should be obtained from Puteoli or its neighbourhood in order to form a hydraulic cement: the concrete was then to be lowered into the sea in caissons (*arcae*) to form the foundation of the piers. The mole at Puteoli was typical of this method of construction. It was restored from time to time, and an inscription on the fourth pier tells us that it suffered great damage under Hadrian, who undertook to repair it, but left the work to be carried out by his successor. Beside the principal harbour at Puteoli, which is sheltered by the mole just described, we also find the remains of a series of basins which are in communication by means of openings in their inner walls, and are protected from the force of the waves by a double row of piers. The outer piers are rectangular in section, and doubtless carried arches: those of the inner row, which are placed opposite the open archways, are trapezoidal in section. Not far from the commercial harbour of Puteoli were the stations of the Roman fleet, whose establishment dates from the period of Augustus. In 37 B. C. Agrippa constructed the *Portus Iulius* for the accommodation of the Western squadron. Lake Avernus—an extinct crater of about one kilometre in diameter—was connected by a canal with the Lucrine lake[1], a shallow lagoon separated from the sea by a sand-dune, along which ran a causeway known as the Via Herculanea. Agrippa constructed entrances to the lakes at either end of this causeway, as well as a mole in front of the easternmost channel. This harbour served its purpose in the war with Sextus Pompeius, but became unserviceable owing to the shallowness of the Lucrine lake; and it was soon superseded by the more spacious harbour of Misenum at the western extremity of the Gulf of Pozzuoli, which from its position was less suited for commercial purposes than that of Puteoli itself. Here, too, there was an inner and outer harbour, separated by a wooden bridge, and the narrow spit which bounds the outer harbour on the north was pierced by a tunnel below the water-level, in order to prevent the accumulation of sand. The remains of ancient harbour-works, both at Misenum and at the Portus Julius, are insignificant.

[1] The eruption of Monte Nuovo in 1538 changed the configuration of this district, and the Lucrine lake has now shrunk to a tithe of its former dimensions.

Under the Imperial régime, more than one effort was made to provide Rome with an adequate harbour at the mouth of the Tiber. The remains of Ostia show that the town enjoyed great prosperity in the Imperial period, and the warehouses by which the ancient bank of the Tiber is bordered prove that this prosperity was due to commerce and not to the market-gardening industry which flourished in the surrounding district, nor to the popularity of Ostia as a watering-place and summer resort. However, the harbour was never safe, since the alluvial deposit prevented large vessels from entering the mouth of the river, and they were obliged to discharge all or part of their cargoes into barges; and Claudius, undeterred by the difficulties raised by his engineers, which had prevented Julius Caesar from carrying out a similar design, caused an entirely fresh port to be constructed. A basin was dug about two miles to the north of Ostia, and connected with the Tiber by a new cut, which now forms the navigable mouth of the river. The harbour of Claudius (cf. Fig. 28) is now at some distance from the sea, owing to the vast amount of deposit brought down by the Tiber, and its outlines are easily traceable. It was protected from the sea by two jetties which curved inwards, and were separated by entrances 120 yards wide from an artificial island. To form this the ship which had conveyed the obelisk set up by Caligula in his Circus (now in the Piazza of St. Peter's) from Alexandria to Rome, was filled with concrete and sunk in the mouth of the harbour, and masses of concrete (*pilae*) were then heaped upon it. A lighthouse, after the model of the Pharos of Alexandria, was built upon the island. The works were begun in the second year of Claudius's reign, and are mentioned in an inscription of the year A.D. 46: but Nero seems to have completed the harbour, or at least to have claimed for himself the credit of so doing, for we find it represented upon his coins, with the legend *Port(us) Ost(iensis) Augusti*—a title chosen in order to deprive Claudius of his title to the work. Nevertheless, the corn-fleet was still exposed to danger in stormy weather; and in A.D. 62, as we are told by Tacitus, two hundred ships were sunk 'in the harbour itself'. To avert this danger, Trajan completed the work of Claudius by adding an inner basin, hexagonal in shape, around which grew up the city of Portus, whose remains have yielded a quantity of statues and other works of art, but still await scientific excavation. Temples, baths, and a theatre have been discovered, and on the spit which separated the harbour of Trajan from the outer basin dug by Claudius was a richly decorated palace, possibly an Imperial residence. The annexed plan represents the results of Lanciani's researches, and is based upon that of Canina: but until the site has been thoroughly excavated it can only be treated as provisional. The measurements of Claudius's moles and island have recently been more accurately determined by M. Carcopino.

Trajan's attention was not confined to the mouth of the Tiber. Some miles to the north he created the port of Centumcellae in an

open bay upon whose shores stood an Imperial villa. The 'hundred docks', destined in the first instance for warships, were protected, much as in the harbour of Claudius described above, by two convergent moles and an artificial island, the formation of

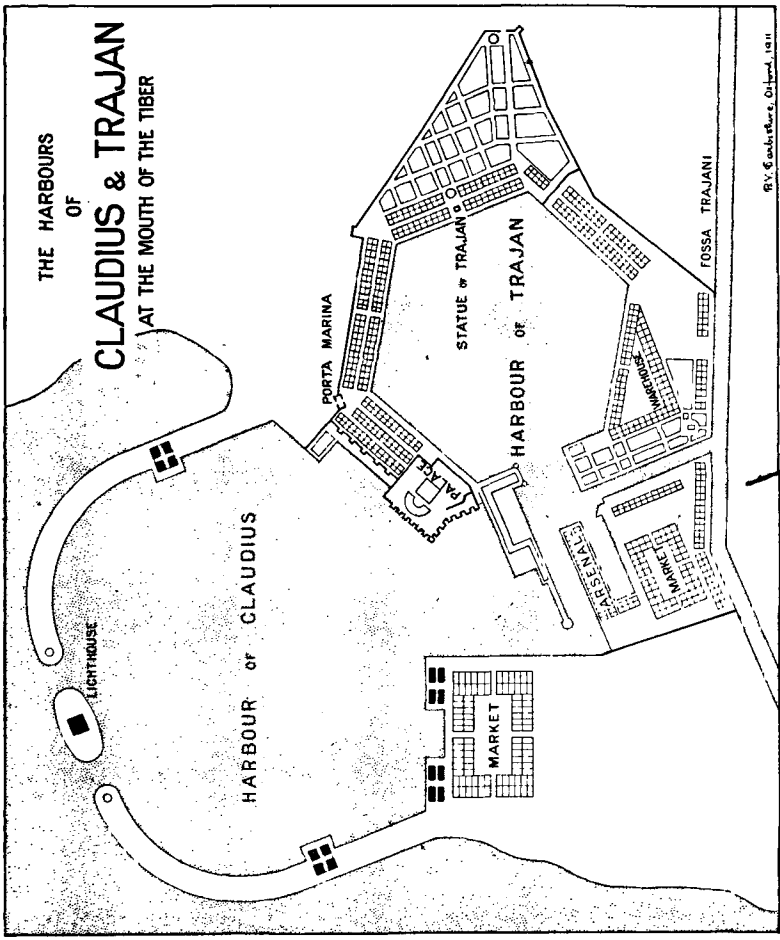

FIG. 28.

which is described by Pliny the younger, who speaks of shiploads of huge rocks being sunk until the mass appeared above the surface. This harbour, under its modern name of Cività Vecchia, is to-day the principal port of Rome. On the Adriatic coast Trajan called into being a counterpart of the harbour of Centumcellae in that of Ancona, which is represented on his column (Pl. XLII). We see in the background the vaulted docks where

the Imperial galleys were harboured, and in the foreground the jetty with its triumphal arch, which still stands, although the statues which surmounted it have long since been destroyed.

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§ 11. THE TOWN HOUSE.

The dwelling-houses of the primitive Italians are represented to us by the hut-urns found in tombs of the Iron Age, such as those of the cemetery adjoining the Roman forum, which have already been described in chap. I, § 1 and figured on Pl. I A. But these rude dwellings gave place in course of time to a type of house more suitable to the warm climate of Italy, whose essential feature is the central court in which the family life was carried on, and about which the rooms were grouped. This court was called the *atrium*, a name derived by the ancient etymologists from its smoke-blackened roof, and its central part was open to the sky. No examples of such early Italic houses are now in existence, and the dwelling with which we are made acquainted chiefly by the description of Vitruvius (vi. 3 sqq.), and the remains of Pompeii, has been enlarged by the addition of a suite of apartments bearing Greek names, and undoubtedly copied from Greek models. Leaving these for the present out of account, we may consider the original plan of the Roman house as represented by the annexed figure.

The house was entered by a passage in which the door was (as a rule) set back some distance from the street, leaving an open space called *vestibulum*. In later times this was treated as a portico and adorned with marble columns and works of art. On the inside of the door the passage bore the name of *fauces* and was usually of the same width as the *vestibulum*. This led directly into the *atrium*, which was also called *cavum aedium* (or *cavaedium*, Plin. *Ep.* ii. 17. 5); its length was usually greater than its breadth.[1] In the earliest Italian houses a hole in the roof sufficed to admit light and to carry off smoke, but in civilized times the *atrium* had a large rectangular opening in the centre (*compluvium*), directly under which was a shallow basin (*impluvium*) into which the rain-water fell. Vitruvius describes five types of *atria*, distinguished by the method of roofing, and as that which appears to be the earliest in date and is the most usual at Pompeii is called by him *a. Tuscanicum*, we may assume that it owes its origin to the Etruscan architects. Two heavy beams stretched across the *atrium* above the ends of the *impluvium*, and cross-beams (*interpensiva*) were laid on these, forming a rectangular frame at a

[1] Vitruvius gives as alternative proportions 2 : 3, 4 : 5 and 1 : $\sqrt{2}$ (as the side of the square to its diagonal).

lower level than the top of the walls. The corners of this frame were connected with the corners of the walls by slanting beams, and sloping rafters carrying tiles were laid on these. A gutter with terra-cotta spouts, usually in the form of animals' heads, ran round the *compluvium*. Vitruvius also describes the *atrium displuviatum*, in which the roof sloped downwards and outwards from the central aperture, and the rain-water was carried off by gutters, and the *a. testudinatum*, with a pyramidal roof and no central opening: no examples of such *atria* are found at Pompeii. The later *atria*, however, conform to the other types mentioned by Vitruvius, viz. the *atrium tetrastylum*, in which the corners of the *compluvium* were supported by four columns, and the *atrium Corinthium*, in which the number of columns was increased. This system is found e.g. in the house of Epidius Rufus at Pompeii. Many Pompeian houses possess more than one *atrium*: thus in the house of the Faun we have an *a. Tuscanicum* as well as an *a. tetrastylum*; the latter is the smaller, and was used for domestic purposes.

The *atrium* originally served not only as the sitting-room and meeting-place of the family, but as the bedroom of the master and mistress of the house, and the kitchen, containing the hearth (*focus*) and nuptial bed, or *lectus genialis*, also called *lectus adversus*, since it stood opposite the entrance. There were small rooms opening into the *atrium* at the sides, and at the further end were two small recesses opening without doors to left and right, called *alae* or 'wings'; here in later times stood the *imagines* (p. 380) in the houses of noble families.

At the back of the *atrium* was a large room or rather recess (since it was merely curtained off in front) called the *tablinum* (or *tabulinum*). This room, according to Pliny (*H. N.* xxxv. 7), contained the family records and archives, and was in fact the office of the master of the house; and this fact points to a derivation from *tabulae* in the sense of 'account books'. Varro, however (ap. Non. *cortes*), says that the *tabulinum* was in origin a summer-house built of boards (*tabulae*), in which meals were taken in hot weather. If this is true, we must suppose it to have been a wooden alcove or verandah built against the back of the house, which in course of time became one of the principal rooms, and may perhaps have been used as a summer dining-room. At the back it communicated by a door with the garden.

The early Italian house was built in one story only, and there are not many exceptions to this rule at Pompeii in the pre-Roman period. Even those houses which possess second-floor rooms rarely have a complete second story. Upper rooms were called *cenacula*, literally 'dining-rooms'; and Varro, in explaining the name, tells us that it became customary to dine upstairs. This statement lacks confirmation; but it may be that when the *atrium* became an open court rather than a living-room, a dining-room may have been often added on an upper floor. Such a dining-room is found in a few houses at Pompeii.

Peristyle of the House of the Vettii at Pompeii.

We have now described the native Italian dwelling, whose parts are all designated by Latin words, *vestibulum*, *fauces*, *atrium*, *ala*, *tablinum*, *cenaculum*. But in later historical times we find a series of rooms at the rear of those already described, whose names clearly betray their Greek origin. A narrow passage, perhaps called *andron* (i.e. *ἀνδρών*)[1], led past the *tablinum* into the *peristylium*, a court open to the sky and surrounded by colonnades, with a fountain in the centre standing in the midst of flowers, shrubs, and statues. Pl. XXVI shows the peristyle of the house of the Vettii at Pompeii, which has been, as far as the remains permit, restored to its ancient condition. The peristyle, like the *atrium*, was surrounded by rooms, and by the last century of the Republic the *atrium* had become a public reception-room, while the peristyle and its adjoining rooms formed the private apartments of the family. Here were the bedrooms (*cubicula*), dining-rooms (*triclinia*), and drawing-rooms or saloons (*oeci*). These last were of various types, all of Greek origin. Amongst those described by Vitruvius are the *oecus Corinthius*, with a row of columns in front of the walls supporting an architrave and vaulted roof, and the *oecus Aegyptius*, lighted by a clerestory. There were also *exedrae* or recesses, generally apsidal in shape.

The simplest elements of the Roman house have now been described, and Fig. 8 (*a*), which reproducesa fragment of the marble plan of Rome, may serve to illustrate the description. Such houses as are there shown, being lighted from the central openings, would have at most a few small windows in the outer walls; while the façade would be formed by a row of *tabernae*, which were let as shops. The same is generally true of Pompeian houses, although the more luxurious living-rooms at the back of the house often have large windows, 10 feet or more in width. Fig. 29 shows the house of Pansa, which occupies an entire block, and illustrates the practice of surrounding the dwelling-house with *tabernae* or smaller houses opening on the streets. The living-rooms are grouped about the atrium and peristyle, and at the back of the house is a colonnade facing a garden, in which vegetables seem to have been grown. The distribution of the rooms not used by the family is as follows. On either side of the entrance are *tabernae* facing the street; only one of these (the second to the left) communicates with the house, while the corner shop adjoining it was connected with a bakery, which occupies nearly half of the frontage on the side street. Next to this are three small dwellings of two stories. On the other side-street there were three larger dwellings, each with several rooms.

The house of Pansa presents the essential features of the Roman house in a regular and typical form, and dates in origin from the

[1] Many modern authorities give the name *fauces* to this passage; but the dimensions of the *fauces* as given by Vitruvius (two-thirds of the breadth of the *tablinum* in the case of larger *atria*, one-half in that of smaller) can only apply to the entrance-passage.

'Tufa period', i.e. the second century B. C. We may take the house of the Vettii (shown by the stamps found therein to have

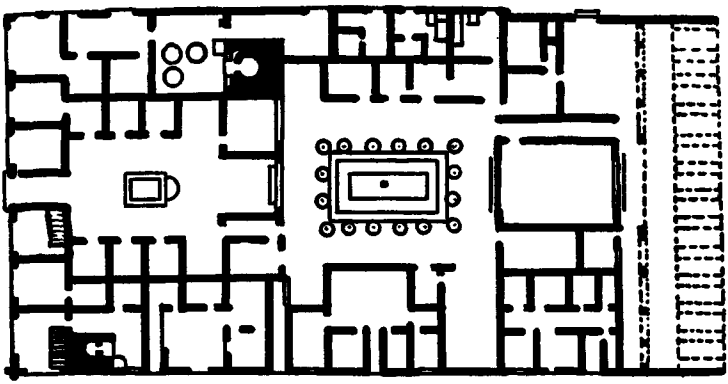


FIG. 29. Plan of the House of Pansa.

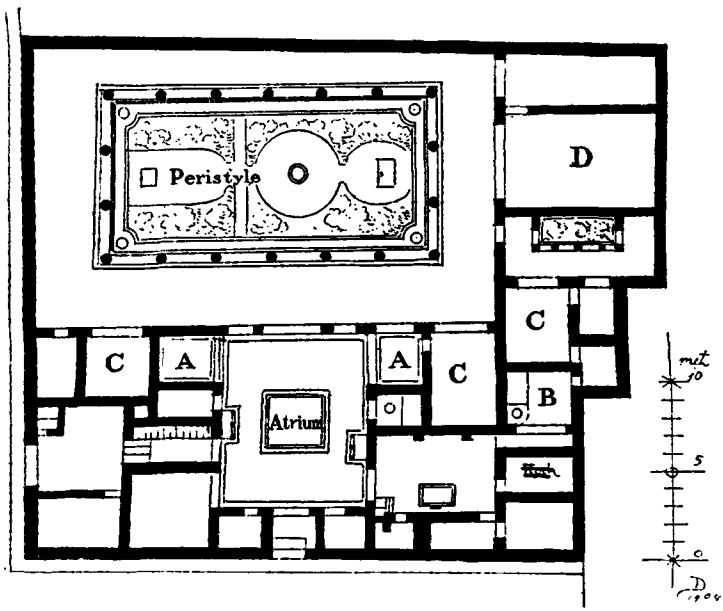


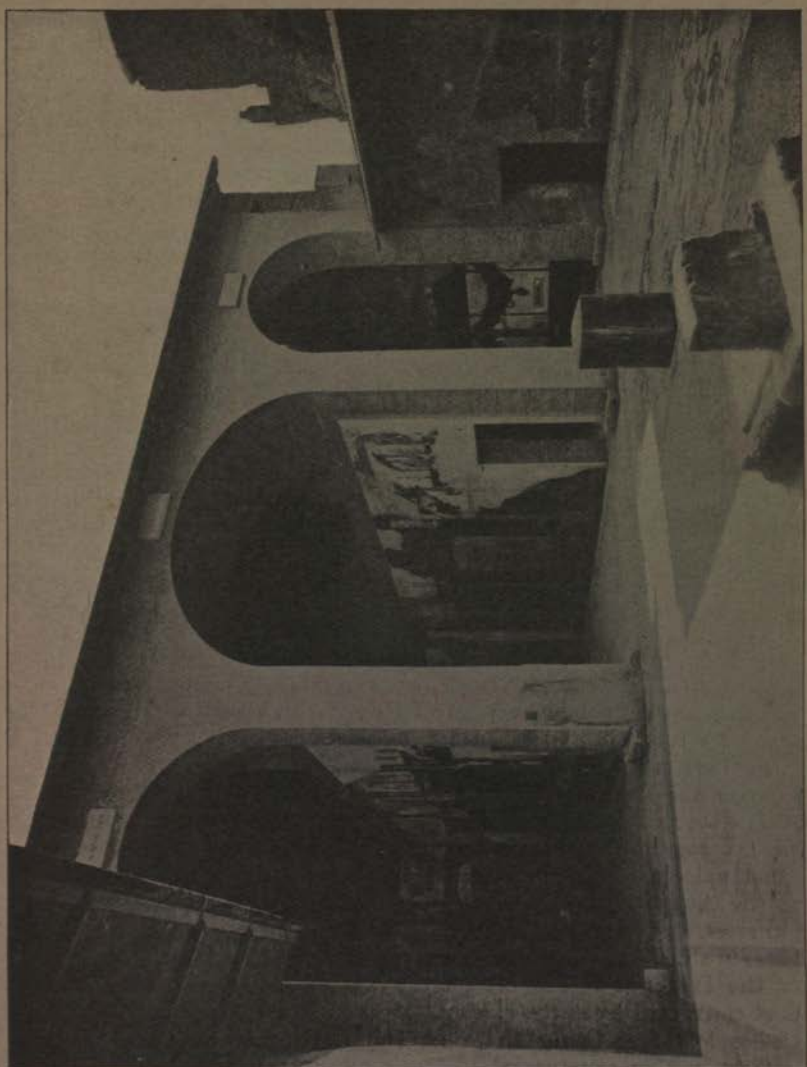
FIG. 30. Plan of the House of the Vettii at Pompeii.

been the property of A. Vettius Restitutus and A. Vettius Conviva, whose relationship is unknown) as representing the town-house of the Roman period at Pompeii and illustrating the modifications

which were often introduced into the typical plan. As the plan (Fig. 30) shows, the principal *atrium* communicated directly with the peristyle, which has outer walls on two sides. The domestic apartments open on the peristyle (Pl. XXV), and comprise a small suite which includes peristyle, dining-room, and bedroom. A smaller *atrium* with a separate entrance from the street forms the centre about which the offices are grouped, including the kitchen. A second story extended for the whole length of the street-front and also over the rooms at the south-east corner. The staircase leading to it was on the south side of the principal *atrium*.

At Rome we find in the so-called 'house of Livia' on the Palatine a dwelling-house of the Augustan period which is somewhat exceptional in plan, partly by reason of the irregularity of its site. It is built in a hollow at two different levels. A vaulted passage (Plan, Map 6) leads down to the *atrium* (Pl. XXVII), which is an unroofed court, and contains pedestals for statues and an altar. Opening into this *atrium* are three rooms, seen in the view (Pl. XXVII), of which the central one is certainly the *tablinum*. The others are usually described as *alae*, but it must be observed that they do not occupy the position properly belonging to the 'wings' of the *atrium* as already shown. They may, however, have served the same purpose. To the right is a *triclinium*, and behind it a stairway and passage lead to the remaining rooms, which are at a higher level than those already described. Here there is no peristyle, but a number of small apartments and traces of a staircase leading to an upper story: amongst the rooms on the west side are *tabernae* opening on the street. It is held by some archaeologists that this is really the front of the dwelling; and it is true that, as the house at present stands, the vaulted passage by which we descend to the *atrium* is unsuited for a main entrance. But there is reason to think that the house was preserved on account of its associations when the adjacent level was raised in connexion with the building of the Domus Tiberiana (p. 167). It contains lead pipes stamped with the name of IVLIA AVG(*usta*), which some authorities have interpreted as that of the daughter of Titus, but others believe to indicate the Empress Livia. In this latter case we may well believe that the house was the property of her first husband, Ti. Claudius Nero. As it communicates with the cryptoporticus which skirts the palaces of Tiberius and Gaius, it has also been identified with the house of Germanicus, in which, as we are told by Suetonius, the murderers of Gaius, after slaying the emperor in the above-mentioned cryptoporticus, took refuge.

In the provinces of the Empire we find several types of house which depart from the Italian model under the influence of local conditions. In Africa the prevailing scheme in houses of moderate size is that of a single court surrounded by colonnades about which the rooms are grouped. Such a house will be seen in the plan of the Forum at Timgad (Fig. 16), where the spacious room facing the entrance takes the place of the *tablinum*. In Syria we



House of Livia on the Palatine.

find an entirely different type. As was noted above (p. 59), the buildings in this region are entirely of stone, and the place of the open court is taken by an oblong corridor divided longitudinally by a massive arch. In Southern Britain and Northern Gaul two types are distinguished, the 'corridor house' and the 'courtyard house', according as the living-rooms are disposed in one long range bordered by a verandah, or grouped about a central court. Both types are found side by side in such towns as Silchester and Caerwent. The corridor house was doubtless devised to meet the exigencies of a northern climate; and the cloistered court of the rival type is far more sheltered than the Roman atrium.

It must be remembered that in crowded towns, and above all in Rome, the poorer classes lived, not in *domus*, but in *insulae*. The word originally means a 'block', whether containing one or more residences, but it came in time to signify a block of tenements let in flats. These were raised to an enormous height in Rome where land was dear—the limits fixed by the emperors have been mentioned above, p. 36 f.—and as the upper stories (in which the rooms were called *cenacula*) were often built of wood, the danger of fire was great. These blocks usually belonged to wealthy landlords, and were placed in charge of a porter and rent-collector called *insularius*; the street front was, as in other houses, occupied by *tabernae*. In the fourth-century descriptions of Rome there are said to be 1,782 (1,790) *domus* and 44,171 (46,602) *insulae*; but it is impossible that there can have been so many large tenement blocks. On the other hand, the figure seems too low if by *insula* is meant a single lodging; so that we must assume the word to be used in the technical sense of a group of tenements owned by one proprietor, of which at this time there may have been many in each block. The fragments of the marble plan of Rome which seem to represent *insulae* show a ground-plan of *tabernae* built back to back, so that there can have been no central well as in modern buildings of the same kind.

The foregoing description may serve for the dwelling-house of the average citizen of Rome, but it has little application to the great palaces of the Roman aristocracy, which Vitruvius, writing in the Augustan age, pictures to us with their libraries, picture-galleries, and *basilicae*, their plantations and covered porticoes. Of these we can form but a poor conception with the aid of the ruins of the Imperial residences on the Palatine, which was in great part converted by successive emperors into a vast palace, the only spaces left free being those at the north-east and south-west corners, where sanctuaries were already in existence. The Plan, Map 6, shows those remains which have been excavated, and will serve to illustrate the growth of the Imperial residence.

It must be remembered that the Palatine was in Republican times the fashionable quarter of Rome; in the last century of the Republic Cicero and his brother, Hortensius, Catilina, and Clodius were amongst those who had houses on the hill. Augustus was

Nova Via
Clivus Victoriae
Aedes Victoriae
Domus Tiberiana
Area Palatina
Vigna Barberini
Area Apollinis
Clivus Palatinus
Aedes Matris Magnae
Domus Flavia
Aedes Jovis Victoris
Domus Augustana
Villa Mills
Santa Anastasia
Hippodromus
Domus Septimii Severi
Aqua Claudia
THE PALATINE
SCALE OF METRES
Existing modern buildings
Unexcavated areas

himself born on the Palatine in the street *ad capita bubula*, near the north-east corner. After the death of Julius Caesar, he bought the house which had belonged to Hortensius, and enlarged it by the purchase of adjoining property in 28 B. C. This house was destroyed by fire in 23 B. C., and was rebuilt on a much larger scale, partly with the aid of a public subscription. No remains of this palace exist, since it was destroyed in the great fire under Nero (A. D. 64); but it is probable that it occupied part of the central depression of the Palatine, since it appears from the words of Ovid (*Trist.* iii. 1. 31) that it faced the top of the Sacra Via (p. 36), and that it did not extend to the southern face of the hill, since Suetonius (*Aug.* 45) tells us that it was Augustus's habit to watch the races in the Circus Maximus from the upper rooms of his friend's houses.[1] Tiberius built a second palace for himself on a large artificial platform at the north-west angle of the hill, now occupied by the Farnese gardens. From the results of early excavations it may be inferred that it possessed a central court about 100 metres square. To this building—which always retained the name *domus Tiberiana*—Caligula added a wing to the north and north-east, and also a gigantic bridge resting on the temple of Augustus and the Basilica Julia, which connected his palace with the temple of Jupiter Capitolinus; this was of course destroyed after his murder, which took place (v. *supra*) in the long *cryptoporticus* which skirts the *domus Tiberiana* and communicates with the house of Germanicus and the *domus Augustana*.

Nero connected the Imperial residence on the Palatine with the gardens of Maecenas on the Esquiline by means of a building called the *domus transitoria*, and when this was destroyed in the great fire of A. D. 64, devoted the remaining years of his reign to the construction and embellishment of the 'Golden House', which covered the Velia, the valley between that hill and the Caelian, and a large part of the Esquiline. Suetonius tells us of its vestibule (standing on the site now occupied by the temple of Venus and Rome) which contained a colossal statue of Nero 120 feet high, its lake (on the site of the Colosseum) surrounded with buildings 'like cities', its parks and pastures, vineyards and forests, its three colonnades each a mile in length, its baths supplied with water from the sea and from the hot springs of Albula, and its great banqueting-room with a revolving dome which represented the heavenly vault. But of all this nothing remains, save some chambers and a reservoir incorporated with the foundations of the baths of Trajan (p. 119). Nero seems to have left no trace on the Palatine itself, and when the Golden House was destroyed by the Flavian emperors, they filled up the central depression of that hill with substructures[2] upon which was raised a suite of state-rooms still

[1] The name *domus Augustana* was applied, as inscriptions show, to the whole of the Imperial residences occupying the central and eastern portions of the Palatine.

[2] Under the peristyle may be seen the remains of a private house, probably

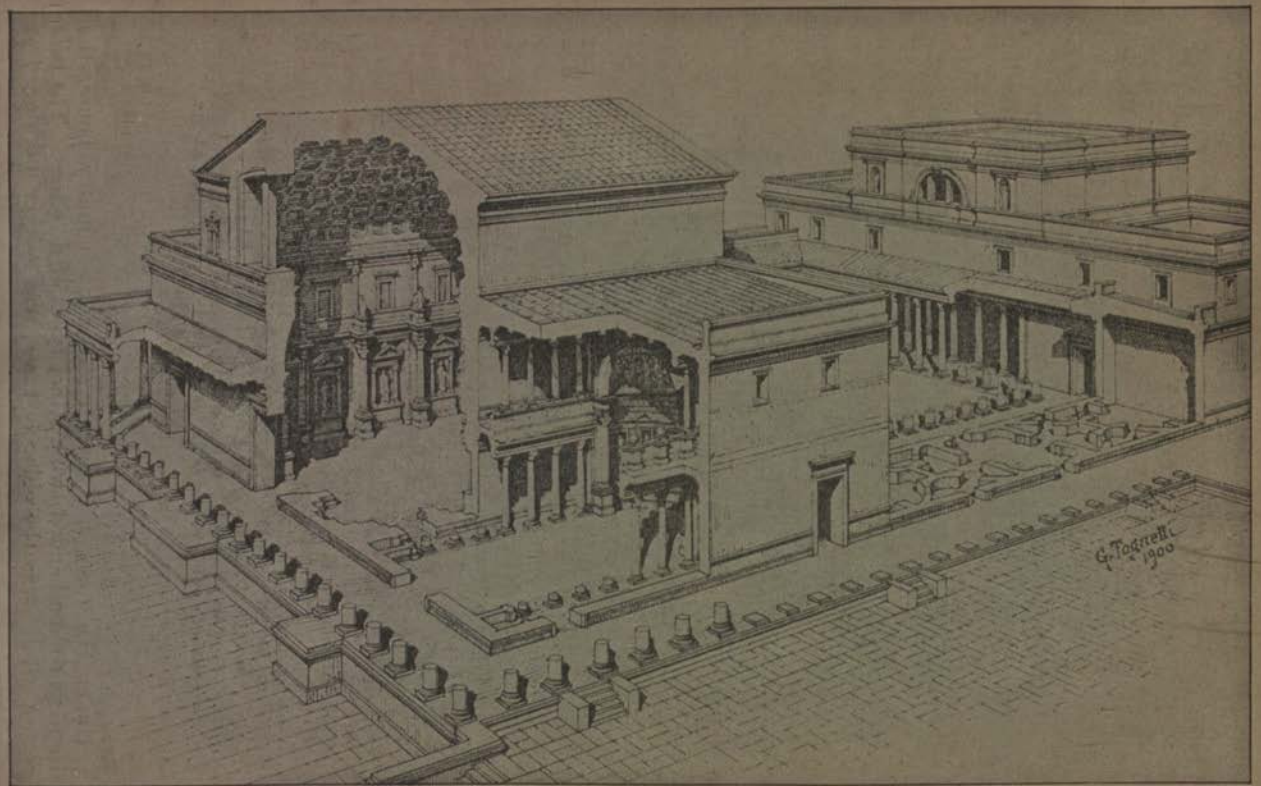
in part preserved; Pl. XXVIII shows a reconstruction of its original aspect. The building was raised on a high *podium* approached by flights of steps, and had its principal façade to the north-east faced by a portico of twenty-two Cipollino columns[1] which was also continued for some distance at each side. The entrance led directly into a large 'throne-room' which is sometimes called the *tablinum* without sufficient reason. This measures 55 by 40 metres, and its walls were broken by niches flanked with columns of *pavonazzetto* 8 metres high; opposite the entrance was the apse containing the Imperial throne. To the right of this 'throne-room' is a hall with aisles formed by two rows of six granite columns supporting galleries, and terminated by an apse in which stood a *tribunal*. This has with justice been identified as a *basilica*. The corresponding room to the left of the 'throne-room' has been called the *Lararium*, as traces of an altar were found in it.

The central part of the palace is occupied by a large open peristyle, surrounded by a colonnade whose columns were of *Porta Santa* with capitals and bases of white marble. To the east of this are a series of smaller rooms, while the corresponding space to the west is as yet unexcavated. From the peristyle an entrance in three bays leads into a large chamber, probably to be identified as the state banqueting-room or *triclinium*, which has an apse at its southern end and was flanked by rows of granite columns; on either side of this room were *nymphaea* with oval fountains in the centre. South of the banqueting-room are two rooms ending in hemicycles to the east, which disturb the hitherto symmetrical plan of the *Domus Flavia*, as this series of state apartments is usually called. In point of fact, the palace of the Flavian emperors (or at any rate of Domitian) embraced not only the building just described, but also the structures still awaiting excavation except for a small portion, marked on Map 6. Excavations made in the eighteenth century showed that there were here a number of apartments grouped about a central peristyle.

The Flavian palace was adjoined on the east by the *Hippodromus* (Map 6), which was in origin merely a walled garden with fountains. But later emperors were not content with the existing palace, and there arose to the south and east of the Hippodromus a huge pile of buildings due in part to Hadrian and in part to Septimius Severus, who used much of Hadrian's work as foundations for his own constructions, and when these did not suffice, built on it an artificial platform on a series of enormous arches, some 24 metres in height. It appears that Hadrian built the great exedra and the suite of baths with hypocausts which adjoins it, while Severus surrounded the Hippodromus with a portico and upper gallery.

of the Augustan period; the paintings and stuccoes are in part preserved, but the massive concrete foundations of the Imperial palace cut directly through the rooms.

[1] This was added by Hadrian.



Flavian state-rooms on the Palatine (restored).

The building of Severus completed the series of Imperial residences; the same emperor added the *Septizonium* (or *Septizodium*) at the extreme south-east corner of the Palatine. The exact purpose of this building is a matter of dispute, but in effect it formed a monumental façade to Severus's palace, showing three great niches flanked by towers.

The architectural history of the Palatine will have shown that the traditional form of the Roman dwelling-house found scarcely any recognition with the builders of Imperial palaces, save perhaps in some slight degree in the *Domus Flavia*: the residences built by the emperors of the fourth century in their new capitals were still less conditioned by existing types. The most remarkable of these later buildings was the palace built by Diocletian at Spalato, in the remains of which the modern town is housed. The model here followed was the camp rather than the dwelling-house. Its towers and gateways give it the appearance of a fortress: only the so-called Golden Gate (which faces the sea) forms an ornamental entrance to the emperor's residence, which occupies the southern half of the palace, the two northern blocks being assigned to the Imperial train. The emperor's apartments were symmetrically disposed about a hall with aisles and domed vestibule with a portico. To the north of this we find on the left a temple usually called that of Aesculapius, on the right an octagonal domed building doubtless destined to be the mausoleum of Diocletian and his family.

The palace of Constantine at Trier was entirely different in plan, and reminds us rather of the Great Thermae than of the palaces of Rome. It was heated throughout by means of hypocausts during the rigours of the northern winter. There was a central rotunda, and the rooms were symmetrically disposed on either side of a range of halls, ending at either extremity in a large apse.

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§ 12. THE COUNTRY HOUSE.

Under the term *villa*, which signifies a country house, the Romans comprehended two distinct types of dwelling. The *villa rustica*, which was the older of these, was neither more nor less than a large farm-house attached to an estate (*fundus*), which contained living-rooms for the use of the owner, and was in his

absence left in the charge of the *villicus*, or estate-bailiff (see below, chap. V, § 1). Such a farm-house is described by the Roman writers on agriculture (Varro, *R. R.* i. 11 ff.; Columella, *R. R.* i. 4, 5 ff.), and its architectural features are treated by Vitruvius (vi. 6). Very different from this was the *villa pseudo-urbana*, a type of dwelling which, if not created by the Romans, was certainly carried by them to the highest perfection of which it was capable. The country houses of the Roman aristocracy, designed to afford to their owners the conveniences of town life amid the surroundings in which they took an inherited delight, were veritable palaces of luxury and ease, with whose remains the Campagna di Roma, the slopes of the Alban and Sabine Hills, and such favoured spots as the shore of the Bay of Naples, are thickly studded. From Rome the type made its way into the provinces, where Roman settlers or Romanized provincials built themselves residences which vied with those of the Italian aristocracy in magnificence, as is shown by the remains found in North Africa and in the valleys of the Rhine and the Moselle. Even in Britain, which was among the less wealthy districts of the Empire, the *villa rustica*, of which so many examples have been brought to light, borrowed something of the commodity, and even of the luxury, of the Italian pleasure-house.

The *villa rustica*, as it existed in Italy under the early Empire, is well illustrated by an establishment excavated in 1894 at Bosco Reale, about two miles from Pompeii, which owes its fame to the discovery of a hoard of silver treasure containing some of the finest examples of the ancient silversmith's art (see below, chap. VII, § 6). Not far from it a second *villa*, quite different in its arrangements, was afterwards brought to light; and it is very possible that this was the country residence of the owner of the farm. The *villa pseudo-urbana*, or residential house, is shown by a *graffito* found therein to have been sold by auction on May 9, A. D. 12 (*Germanico Consule*), and its wall-paintings, which are among the best examples of the second or architectural style, point to its construction in the Augustan period. The name of the owner, P. Fannius Synistor, is inscribed on the lip of a large vase for holding oil, which contained 24 *sextarii*, i. e. half an *amphora* (3 gallons). The living-rooms were grouped about a peristyle; a *triclinium* and a suite of bath-rooms can be distinguished. To the south was a second peristyle to which a flight of steps led down, and on the right of this there seem to have been farm-buildings (olive presses, &c.), but these were of comparatively small importance.

In the *villa rustica* (Plan, Fig. 31) the living-rooms, which are few and unpretending, occupy the western angle of the building. There are two *cubicula* (*K* and *L*) and a *triclinium* (*N*), in which the remains of three couches were discovered, approached by an antechamber (*M*). Between the bedrooms a passage leads to the bakery (*O*) containing a mill (1) and oven (2). Adjoining

the living-rooms are the tool-house (*J*), kitchen (*B*), and bath-rooms (*C–F*), described above, p. 116. Next to the kitchen was the stable (*H*). The rest of the villa was destined for the purposes of the farm. Facing the entrance of the courtyard *A* (which had a colonnade running round three of its sides and carrying an upper floor at the front) was the wine-press (*P*). There were two oblong presses (1); with posts (4, 5) to which the press-beam and the ends of the windlass by which it was raised and lowered were attached, and vats (2) into which the grape-juice ran. It was then transferred by a pipe to the fermentation-room (*R*) on the other side of the passage (*Q*) and distributed into open vats holding about 250 gallons each, where the wine was matured, being exposed, according to the Campanian practice (cf. p. 312), to the sun, wind, and rain. To the east of the wine-press were small rooms for slaves (*V–X*) with an upper floor, and next to these were the rooms where the olives were crushed (*Z*) and the oil extracted (*V*). The press was very similar to the wine-press, but smaller. In the room *S* were found remains of straw and of a wagon, while *T* was an open threshing-floor, paved with *opus Signinum*. The magnificent silver treasure described in chap. VII was discovered in the cistern (3) beside the easternmost wine-press, together with the skeleton of a man who had taken refuge there from the eruption; besides the treasure he was carrying with him a bag containing about 1,000 coins. This villa differs from the typical farm-house described by our authorities in having only one courtyard (*cohors*), but the second court which they mention was chiefly destined for the accommodation of live-stock, and surrounded by stables and stalls, and the farm at Bosco Reale was no doubt a small one devoted mainly to the cultivation of the vine and the olive.

The villas whose remains have been discovered in the provinces are not as a rule to be described as *villae rusticae* in the strictest sense of the word. They were, generally speaking, the permanent residences of land-owners who supervised the cultivation of their own estates, and as such combine in one the features of the farm-house and the country seat. An illustration of this type will be given below. A distinction has, however, been drawn between two forms of villa represented by numerous examples in the Rhine-land and the adjacent regions. Here the 'residential' villa is generally rectangular in plan, with a verandah or portico on one of its longer sides, upon which the dwelling-rooms open: the *villa rustica* is square, and the buildings are grouped about a large courtyard. A good example of the former type may be seen at Fliessen; the latter is illustrated by the villas of Nennig, Oberweis, and Leutersdorf.

For the reconstruction of the *villa pseudo-urbana* we have abundant material, both monumental and literary. Vitruvius, indeed, dismisses the type with the remark that the order of the principal parts observed in the town house was reversed, since the entrance led directly into a peristyle, behind which were *atria*, colonnades,

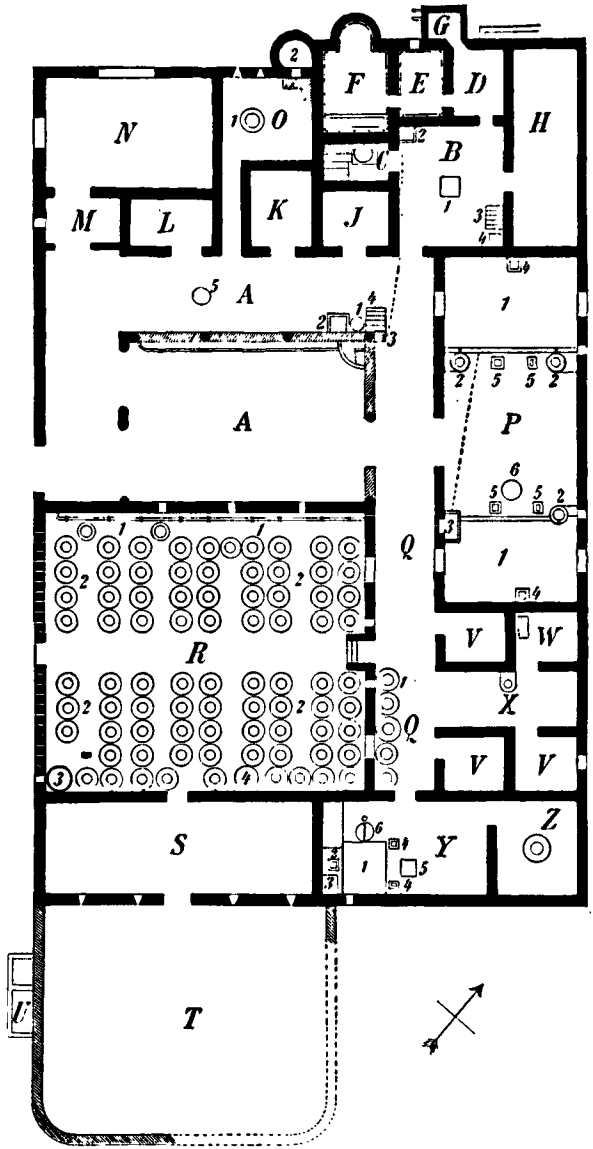


Fig. 31. Plan of Villa Rustica at Bosco Reale.

&c., but the lack of further detail is compensated by the descriptions of concrete examples which we find in the correspondence of Cicero and Pliny the younger. Pompeian paintings, and the

remains discovered in Italy and the provinces, help to complete the picture: but much remains to be done by excavation, particularly in the Roman Campagna, where typical examples might easily be laid bare and their plans accurately determined. The earliest recorded instance of such a retreat from the bustle of city life is given us in Seneca's account of the villa at Liternum occupied by Scipio Africanus, the conqueror of Hannibal, in the closing years of his life, and Seneca mentions it only to contrast its scanty accommodation with that of the luxurious country mansions of his own age. Between the time of Scipio and that covered by Cicero's correspondence, the rapid increase of wealth and the growing refinement of manners caused the practice of *villeggiatura* to become universal amongst the wealthier classes, and it was usual for the leaders of Roman society to possess not one, but many such residences, which were often used by their owners merely as stopping-places (*deverticula*) on their journeys, or placed at the disposal of their friends for the same purpose. We are naturally most fully informed as to the country houses of Cicero, who, although averse from vulgar luxury, thought it necessary to have a comfortably appointed retreat in each of the most fashionable districts—the Alban Hills and the Campanian coast—besides houses of call on the chief roads leading southwards from Rome. From his father he inherited a villa at his native town of Arpinum in the valley of the Liris, which was placed between two arms of the Fibrenus, a tributary of that stream; and—as we infer from the opening chapter of the second book of the *De Legibus*—he always retained a tender feeling for the home of his boyhood, although its simplicity could venture no comparison with the luxury of some of his later acquisitions. His first addition to his ancestral property was a villa at Formiae, a coast-town near the modern Gaeta, which was well placed for use on Cicero's journeys, since it lay on the Appian Way, more than half-way from Rome to Naples, and not far from its junction with the road which followed the valley of the Liris to Arpinum. Here Cicero spent the winter of 50–49 B. C., within easy reach of Rome and yet on the route to the east, should he determine to throw in his lot with the Pompeians; here, at the close of March in the latter year, he was visited by Caesar; and here he was discovered and murdered by Antony's bravoes in December, 43 B. C. But the presence of all-too-friendly neighbours made literary work impossible at Formiae, and in 68 B. C. Cicero bought from Vettius a villa at Tusculum—probably on the slopes above the modern Frascati, with their incomparable view of the Campagna and the Eternal City—which was fitted to give him the quiet which he needed because it lay not on, but only near to, the Latin Way. This villa had once belonged to Sulla, and afterwards to the conservative leader Q. Lutatius Catulus: and hard by was the villa of Lucullus, whose large library was always at Cicero's disposal. In the letters of 68 B. C. and the following years we hear much of the works of art with which Cicero was decorating his

new possession: Atticus was commissioned to purchase herms and statues, and a whole cargo was landed at Caieta in 66 B.C. The villa was sacked by Clodius's ruffians during Cicero's exile, and on his return half a million sesterces (£5,000) were voted by the Senate for its restoration; and until 45 B.C., when the death of Tullia caused him to forsake it for a time, it was his favourite retreat for purposes of study. Not content with this, however, Cicero when at the zenith of his career—the exact year is uncertain—purchased a villa near Pompeii, which has been identified, but wrongly,[1] with one of those discovered outside the Herculanean Gate. Here quiet was more easily attainable than on the more frequented northern shore of the Bay of Naples. However, Cicero was unable to resist the temptation to acquire a residence on the fashionable side of the bay, and after his return from exile we find him the owner of a villa at Cumae, on the banks of the Lucrine Lake, whither he retired in 54 B.C. to write the *De Republica*. Nor does this complete the list of Cicero's villas. He owned a house at Antium which he often used on his journeys, and ultimately sold to Lepidus in 45 B.C., buying in exchange a small villa at Astura on the neighbouring coast, to which he withdrew in order to lament his beloved Tullia. In the same year the banker Cluvius left his estate at Puteoli to several co-heirs, including Caesar and Cicero, who bought in the property as an investment and began to build a villa thereon. It may have been here that Cicero received the visit of Caesar and his retinue on Dec. 21, 45 B.C., although it is perhaps more likely that this took place at Cumae. Thus we find Cicero, in the closing years of his life, owning no fewer than seven country houses. His brother, too, was the possessor of several villas, and we find Cicero writing to him as to his building operations. The details given are too scanty to enable us to reconstruct the villas themselves, but they throw some light on the features to which attention was devoted. We learn of the importance attached to landscape gardening—the *ars topiaria*; and the terraced platforms so frequent in the Roman Campagna recall the ivy-clad *basis* of Quintus's 'Arcanum', with its train of statues. For such garden-walks the bronze herms with marble shafts, of which Marcus speaks, were imported to Tusculum; and the villas of Tivoli have yielded up portraits (or the inscribed bases thereof) representing the sages, statesmen, and poets of Greece. Again, we find that the Roman considered water a necessary element in his landscape. The villas of Tusculum were supplied by branches of a local aqueduct,—the Aqua Crabra; and fishponds and canals, such as the 'Nile' of Quintus's 'Arcanum', were scarcely ever lacking. The mention of the *Nilus* leads us to speak of the practice of baptizing parts of an estate with foreign, especially Greek or Egyptian, names, which suggests that the Romans learnt something in this matter from Hellenistic—particularly Alex-

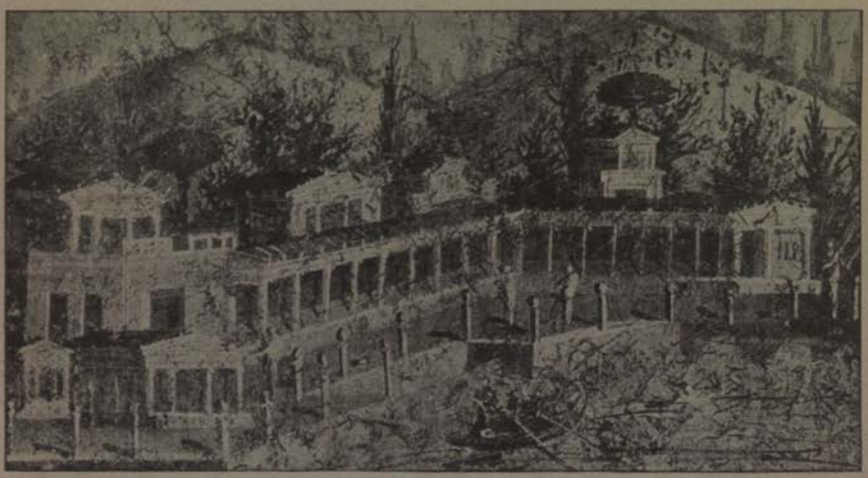
[1] The so-called Villa di Cicerone was in reality the property of M. Licinius Crassus Frugi.

andrian—landscape gardeners. Atticus, we hear, had an 'Amaltheum' at his villa near Buthrotum in Epirus; and Cicero inquires of its τοποθεσία in order that he may copy it at Arpinum. We may venture to compare the 'Horn of Amalthea', described by Duris of Samos[1] in one of the parks of Gelon, the tyrant of Syracuse. Once more, we read of the colonnades in which the owner could take exercise in all weathers: the gymnasia for the practice of athletics; and the suites of living-rooms adapted for the various seasons of the year. The best illustration of such descriptions is to be seen in the paintings of the *tablinum* in the house of M. Lucretius Fronto at Pompeii, which, being in the Third Style (see p. 405), may be as early as the reign of Augustus. Two of these are reproduced on Pl. XXIX, and require no elucidation. We must conceive of the coast-line of the Bay of Naples, especially in the neighbourhood of Baiae, as bordered by an uninterrupted succession of such villas: and indeed their remains exist at the present time, submerged by the invading sea.[2] For inland villas we may point to the second discovered at Bosco Reale and the villa of Voconius Pollio in the Roman Campagna, which has a peristyle adjoining the principal entrance, according to Vitruvius's precept, and a three-sided colonnade on its north side, well fitted to catch the winter sun.

Pliny's well-known descriptions of his villas at Laurentum, on the coast of Latium, and in Etruria (*Epp.* ii. 17; v. 6) give us abundant details as to the country-houses of the early Empire. Together with a genuine love of scenery, evinced by the choice of sites with a view of sea or mountains and the building of towers to command a wide outlook, we find a delight in prim parterres or formal hedges of box cut in the shapes of letters. The *cryptoporticus*, or covered walk with windows on the sunny side, is another feature to be noted, as well as the *diaetae*, or suites of living-rooms, complete in themselves. But the reconstructions of these villas which have been published cannot be more than conjectural; and the type is best studied in its crowning example, the Villa of Hadrian at Tivoli. In this the emperor took up his residence in A.D. 134, and devoted the closing years of his life to its embellishment; and although it has never been completely excavated, and its outlying portions have not even been thoroughly explored, the visible remains suffice to give a correct impression of its general plan. The site was well chosen upon a ridge bordered by valleys, through which streams flow down to join the Anio just below Tivoli. We are told that Hadrian gave to its several parts names which recalled the scenes of his travels: and it is generally agreed that the easternmost valley, overlooked by tower and terrace, was the 'Vale of Tempe', while in that on the western side of the villa, at the head of which was a domed exedra, we are to find the

[1] *Ath.* xii. 542.

[2] They have been described by Mr. Günther in his memoir, 'The submerged Greek and Roman foreshore near Naples' (*Archaeologia*, lviii).



Pompeian wall-paintings representing Roman villas.

'Canopus' which took its name from the famous suburb of Alexandria. The exedra, in fact, recalls by its form the Serapeum in the Campus Martius represented on a fragment of the Marble Plan, and a number of statues imitated from Egyptian models were found in this region. On the other hand, the counterfeit of the Stoa Poecile or painted porch of the Athenian agora is certainly not to be sought in the colonnade, two hundred metres in length, whose wall is amongst the best-preserved remains of the villa (Plan, Fig. 32); for this forms but one side of an open court (popularly called *piazza d'armi*) carried partly on substructures, which recalls by its form the *hippodromus* of the Palatine, and probably served the same end. That the palace itself was of gradual growth is clear, not only from the traces of altered construction, but also from the irregularities of its plan. At the northern end of the main ridge is an irregularly-shaped terrace, faced by two blocks of buildings which are popularly known as the Greek and Latin libraries: and these were clearly in existence before the court, which lies between them and the main palace, was planned. This court, in fact, on the east of which lie a series of rooms (the so-called 'Hospital') destined, most probably, for the use of attendants, and a house communicating with a tower which overlooks the 'Vale of Tempe', while to the west is a circular building containing an artificial island (the 'Teatro Marittimo'), owes such regularity of aspect as it now possesses to the desire to provide a seemly approach to the main palace. This, again, falls into two clearly marked divisions, or perhaps we should rather say three: for the two ranges of buildings which run from south-east to north-west are separated by an open court to which, as it seems, a certain symmetry of aspect was given by later additions. The more southernly group contains a suite of state-rooms, among which is a *basilica* or *oecus Aegyptius*, and a richly decorated *Nymphaeum*: and this part of the palace forms a complete whole, connected by a colonnade overlooking a terraced garden with an independent block of buildings to the south, with a different orientation, grouped about a peristyle (the so-called 'Piazza d'Oro') about as large as that of the *Domus Flavia* on the Palatine (p. 168), entered by an octagonal vestibule and faced by a large domed hall with a cupola of fantastic construction. Beside these two palaces whose outlook was to the east, there was a third on the western slope of the ridge, misnamed the 'Accademia', the remains of which are less accurately known, since they do not form part of the Government property. It is somewhat smaller than the eastern palace, but was richly decorated and very elaborate in plan, with a domed hall resembling in its construction that which adjoins the Piazza d'Oro.

The buildings above described sufficed for the actual residence of the emperor: but there were a multitude of others which served for his recreation or for the accommodation of his court, many of which are still imperfectly known. No less than three

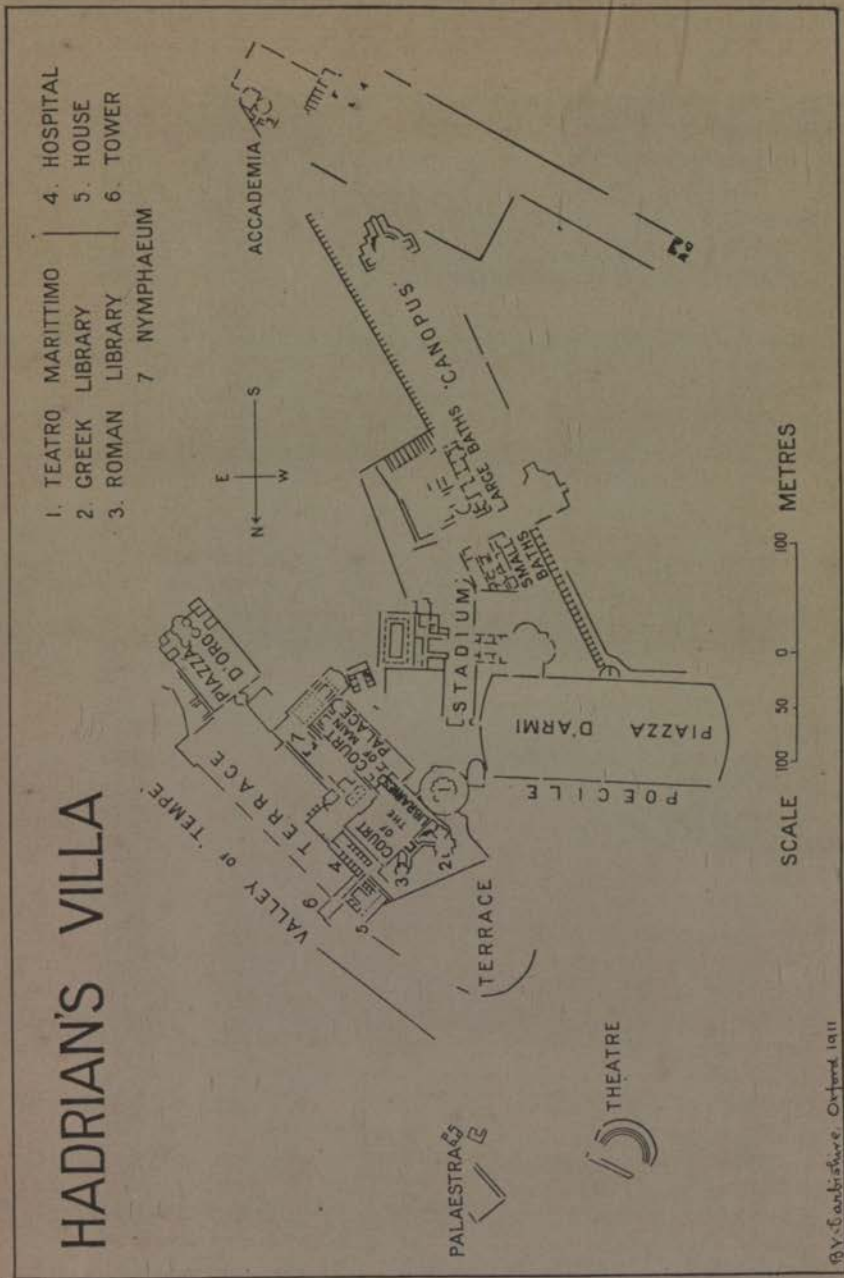


Fig. 32.

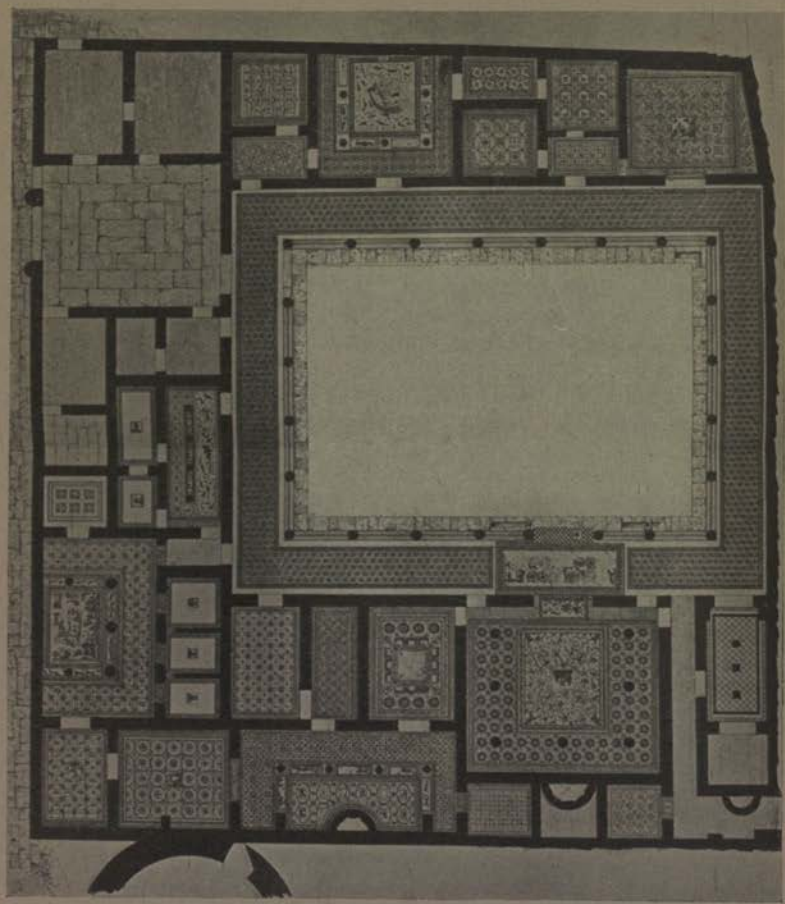
theatres can be traced, two at the northern extremity of the villa and a third to the south of the 'Accademia': between the two first-named is a building in which the earlier explorers of the villa

recognized a palaestra. At the eastern end of the long court which we have ventured to call the *hippodromus*, and making a right angle therewith, is a stadium with suites of apartments of uncertain use on either side: they include a court surrounded by a covered walk or *cryptoporticus*. Adjoining this group of buildings on the south, and in line with the 'Canopus' mentioned above, are two complete bathing establishments, whose wide windows were disposed to catch the westering sun: the larger of these is clearly an addition to the original plan, and its lack of symmetry is explained by the fact that on the north-east its site adjoined that of a building—now completely destroyed—probably designed for the residence of officials of the court. Such were the principal features of a dwelling whose bare and shapeless ruins can give but a faint impression of the magnificence to which scanty remains of precious marbles and a host of statues, reliefs, &c., now dispersed throughout the museums and private collections of Europe bear witness.

The country-house as we see it in the provinces varies widely in plan; and we can here do no more than describe certain remarkable examples. The villas of the wealthier settlers in North Africa may be illustrated by that whose plan is shown on Pl. XXX. It was discovered near the town of Uthina (Oudna, in Tunis), and appears from the inscriptions found therein to have been the property of the family of the Laberii. The plan does not include the suite of baths which were so necessary to the comfort of the Roman: but traces of such appear to have been found in a detached building. The house resembles others found in the same region in its main features, which are the large peristyle enclosing a flower-garden and central fountain[1], about which the living-rooms are grouped; the saloon or *oecus* opening on to the peristyle—the entrance is distinguished by a figured mosaic which interrupts the geometrical pattern of the pavement of the colonnade; and the grouping of the other rooms in suites about a number of small colonnaded *atria*. The offices were on the right hand of the entrance, the stables and coachhouse to the left thereof. The living-rooms are richly decorated with mosaics, which are typical of the art which flourished in the African provinces under the emperors of the second century. We may note in the *oecus* a vintage scene, in the *atrium* on the opposite side of the peristyle a pavement strewn with fish crowding into a net cast by a fisherman, and in the larger of the two *atria*—on the side in which is the doorway of the villa—a scene of farm life. Mythology is represented by the scene of Europa and the Bull in a room opening on the corner of the peristyle, placed not exactly in the centre of an ornamental pavement in order to receive more light from the entrance.

If the villa of the Laberii represents the country-house of the well-to-do provincial, that of Martres-Tolosanes, situated on the

[1] The fountain is not shown on Plate XXX.



Plan of the Villa of the Laberii at Uthina.

banks of the Garonne not far from Toulouse—the largest hitherto discovered outside Italy—may be regarded as the residence of an Imperial official of considerable importance, possibly the administrator of the Imperial domains in that district, or in the province of Gallia Narbonensis. The annexed plan (Fig. 33) gives an outline in simplified form of this remarkable group of remains. They are surrounded by a wall which encloses a space nearly forty acres in extent, and the villa itself covers about 7½ acres. It has been found possible to distinguish four periods in the history of the site. In the first the villa consisted in a peristyle about which the living-rooms were grouped, and a suite of baths in line with its south-eastern angle: these buildings stood on a natural terrace overlooking the Garonne. There were besides four rows of outbuildings, three of them parallel to the river, which served the purposes of the farm, and housed the *familia rustica*. In this, its earliest form, the villa probably dates from the Augustan period, and its decoration seems to have been of the simplest kind. In the succeeding period (to which the enclosing wall ABC belongs) the villa and its baths were almost entirely rebuilt, and a large court or vestibule, bordered by *cryptoporticus*, was constructed between the main building and the river. Some farm-buildings were added on the eastern edge of the domain, and a long *cryptoporticus* was built along the western side. The decoration of the villa and the general resemblance of its plan with Pompeian dwellings may be said to point to the latter part of the first century A.D. as the period of reconstruction. In the third period many additions were made to the villa. To the north of the baths we find a large court with a fountain in the centre and a colonnade on the west: this took the place of the *cryptoporticus*, which was now widened throughout its whole length and converted into a series of chambers, ending in a courtyard bordered by sheds. The baths themselves were furnished with a fresh *caldarium*, and to the south they were now adjoined by a closed garden ending in an exedra, and approached by an *atrium*; to the west of this a suite of rooms, including (probably) a summer *triclinium*, was built, and near the south-western angle of the enclosure a long building faced by a *cryptoporticus* was constructed, seemingly as a detached residence. On the eastern side of the farm-enclosure there was added a large storehouse or granary approached by an open court with a shed on the western side. To the south, perhaps on account of an inundation of the Garonne, a fresh enclosure-wall was built at a somewhat different angle (F G), and where it cut through the walls of the vestibule of the second period, it was adjoined by what seems to have been a small suite of baths. The decoration of the villa was far more sumptuous in this period than in those which preceded it: the marble quarried at St. Béat in the Pyrenees is largely employed, and it is reasonable to suppose that the numerous sculptures—especially reliefs—of the Hadrianic or Antonine period,

which have been found in the villa, belong to the time of its enlargement and redecoration. Finally, there are signs that about the beginning of the fourth century, when the earlier build-

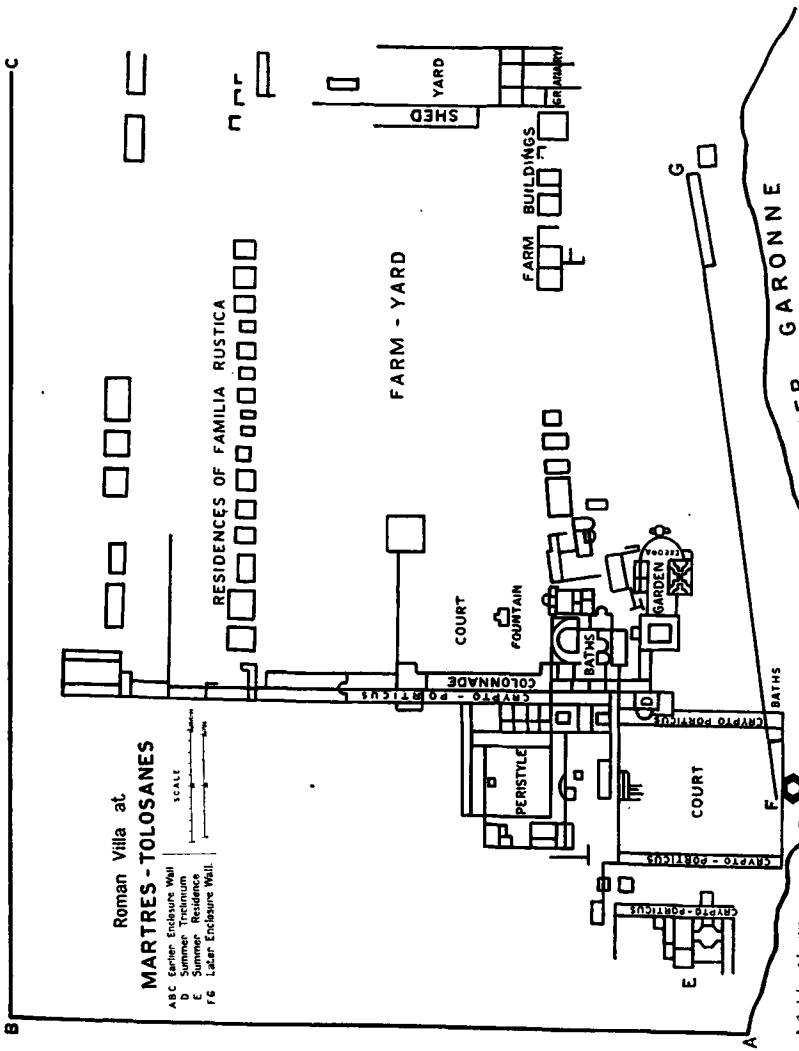


FIG. 33. Plan of Roman Villa at Martres-Tolosanes.

ings were beginning to fall into decay, certain fresh constructions were raised: to the east of the baths a complete set of living rooms were added, and a part of the long gallery running from north to south was occupied by small rooms. A century later—doubtless in one of the early barbarian invasions—the villa was

destroyed by fire. It has been estimated that the farm-buildings are adapted for an estate of about 2,500 acres of cultivated land, and that three or four hundred persons must have been resident in the villa at the time of its greatest prosperity. Amongst the works of art with which it was adorned, the most remarkable are the Imperial portraits, which range from Augustus to the Severi and even later, and it is this fact which chiefly lends colour to the theory that we have here the remains of an official residence.

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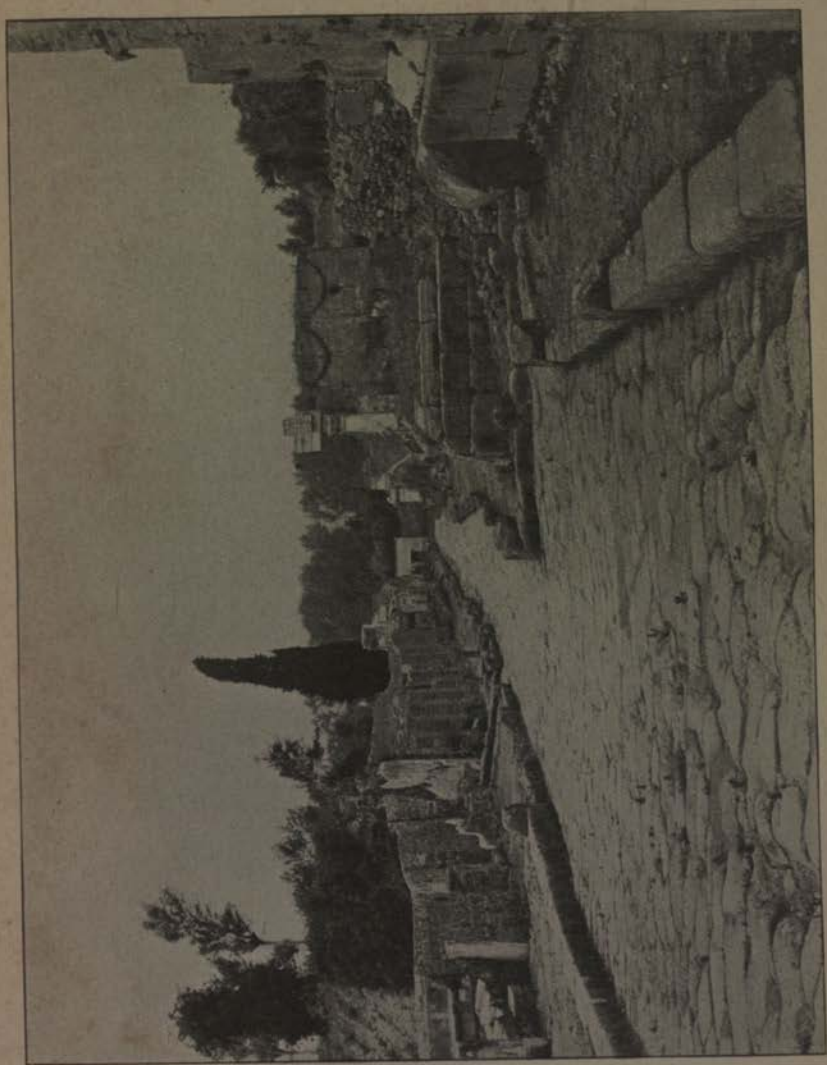
§ 13. TOMBS.

The modes of burial practised in early Rome do not concern us here; they have been described and illustrated in chap. I, §§ 1, 3. It was there shown that at the beginning of the historical period the chamber-tomb in which the wealthier Etruscan families deposited their dead begins to be found in Rome, some notable examples having been discovered on the Esquiline. These chambers were in early times hewn in the rock; later we find them built of *opus quadratum*. A law comprised in the Twelve Tables —*hominem mortuum in urbe ne sepelito neve urito*—proves that interment and cremation were both practised in the fifth century B. C., and also that the tombs which are found within or beneath the 'Servian' wall of the fourth century belong to a period when the circuit of Rome's defences was smaller. As was natural, the sites chosen for burial-places lay for the most part on the lines of road which issued from the several gates; and Cicero speaks of the graves of famous Roman families[1] which the traveller saw as he set forth from the Porta Capena on the Appian Way. The most celebrated of these was the burial-place of the Cornelii Scipiones, first discovered in the seventeenth century, but not completely excavated until the close of the eighteenth. It lay in the angle formed by the Appian Way and a cross-road connecting it with the Via Latina, and consisted in a number of irregularly-shaped chambers and passages hewn in the tufa, to which were added (in

[1] Originally each *gens* had a common burial-place; in later times the several *familiae* of the *gens* had their own sites.



Street of tombs at Pompeii.

the first century A. D.) three chambers of brickwork; in these (as the inscriptions show) freedmen of the Cornelii were buried. The entrance of the tomb had a façade with cornice and engaged columns of tufa. The Cornelii, we are told, retained the custom of inhumation when cremation had become usual. Sulla was, in fact, the first member of the *gens* to be cremated; accordingly the tomb of the Scipiones contained a number of sarcophagi, which were destroyed on their discovery, except for the inscribed slabs which were removed to the Vatican. That of L. Cornelius Scipio Barbatus, consul in 298 B. C., which bears a famous metrical inscription and is decorated with a frieze of triglyphs and metopes, a cornice of dentils, and a lid ending in Ionic volutes, now stands in the vestibule of the Belvedere, surmounted by a laurel-crowned bust of peperino, often, but wrongly, identified with the portrait of the poet Ennius which we know to have stood in the tomb.

The appearance of the roads bordered by tombs can best be realized by a comparison with the Street of Tombs outside the Herculanean gate at Pompeii (Pl. XXXI). The sides of the street were not, in fact, wholly occupied by tombs; the brick pillars which may be seen on the left, beyond a cross-road which leads to the sea, belonged to the *tabernae* of the so-called Villa of Cicero; on the right was another villa, to which, probably, two of the tombs seen in the picture belonged, and a little further on was an inn. But the remaining spaces were closely packed with funeral monuments; and as some of these bear inscriptions recording the presentation of the site by the City Council, we may assume that the land on either side of the road was originally public property. The tombs show great variety of architectural design: sometimes we find a simple altar with reliefs, at others a more ambitious monument in the form of a temple, such as that which is seen on the right of the picture, with its decoration of flat pilasters and garlands in relief; and a niche or semicircular bench, where the living members of the family might assemble in the neighbourhood of the dead, was a common adjunct. The most conspicuous of these niches is that which (with its modern roofing of tiles) is seen beyond the garland tomb. Its walls and vaulted ceiling were somewhat extravagantly decorated in painting and stucco. It belonged to the villa which lies behind it; and as the marble tablet placed in its gable bears no inscription, it follows that the owner was still living at the time of the earthquake. The communication with the villa lies through a small garden which seems to have been used for the celebration of sepulchral rites. In a small tomb adjoining the niche—and forming part of the same property—was found the fine blue glass vase now in the Naples Museum which is mentioned on p. 438. On the extreme left of the picture may be seen part of a semicircular bench or *schola*, upon which is an inscription stating that it was built in memory of Mamia, priestess of the city, on a site granted by the Town Council. Behind a similar bench nearer the city gate (not seen in the picture) stood

Necropolis on the Esquiline.

a statue, set up at the public expense, of one Aulus Veius, a local magnate.

It was of course only the wealthy who could afford to purchase land and erect tombs on such valuable sites as those immediately outside the city gates. At Rome the growth of population and the consequent rise in the price of land forced the poorer classes to bury their dead in common graves (*puticuli*) outside the Servian *agger* on the Esquiline. Traces of these and of the mass of human remains with which they were filled have been discovered in modern times, and Horace speaks of the service rendered by Maecenas, who buried this whole region—'disfigured by bleached bones', as the poet tells us—under a mass of earth and laid out a park on the site. Doubtless the sanitation of the Esquiline was vastly improved; but the difficulty of finding room for burials must have been acute, and to a certain extent it was solved by the creation of a new and characteristic type of burial-place. This is generally called the *columbarium*, but the word was applied by the Romans not to the whole monument, which was either known simply as *sepulcrum* or *monumentum* or sometimes as *ossuarium*, but to the niches in which the ashes were laid; the name was taken from the holes of a dovecot. The *columbarium* is only found at Rome and in its immediate neighbourhood (as at Ostia), and as the architecture and inscriptions of the existing examples point to their construction under Augustus and the emperors immediately succeeding him, it is reasonable to trace a connexion with the cessation of burials on the Esquiline. The aspect of a necropolis mainly formed by such *columbaria* is illustrated by Pl. XXXII, which shows the cemetery discovered outside the Aurelian walls between the Porta Salaria and Porta Pinciana. The *columbaria* here seen are of moderate dimensions, and were built by well-to-do Romans for their families and freedmen, sometimes in connexion with a sepulchral chamber of the usual type. The terra-cotta relief figured on Pl. LX, for example, was used in the decoration of an *aedicula*, or shrine, which stood in a subterranean chamber in whose walls were long niches, each containing three or four urns. The name of the owner was P. Numitorius Hilarus, who granted to certain of his clients and freedmen the privilege of burial in this chamber; above it was built a *columbarium* as an upper story. But the *columbaria* found in this cemetery can bear no comparison in respect of size or decoration with others, such as those discovered in the eighteenth and nineteenth centuries in the angle formed by the Via Appia and Via Latina. One of these, as is shown by the inscriptions found therein, served as the burial-place of the slaves and freedmen of Marcella, the younger daughter of Augustus's sister Octavia; it is a simple chamber containing room for more than 600 burials. Fig. 34 shows the plan of a second, discovered in 1840, a rectangular chamber with a massive central pier supporting the vaulted roof, approached from above by a flight of steps and containing in its walls 450 niches, calculated

to contain two urns apiece. There are nine rows of niches in each wall, and it appears that a wooden gallery supported on brackets ran round the upper part of the chamber. The names of the persons buried in the *columbaria* were inscribed on marble tablets fixed in the walls; from these we learn that the urns were often sold and resold—indeed there seems to have been a brisk speculation in *columbaria*. The upper part of the walls of the central pier, where there are no niches, are decorated with paintings of birds and animals. A third burial-place in the same region consists of three corridors forming a horseshoe, divided by pilasters into compartments, and containing some 800 niches designed to hold four urns each. Here too, the upper rows were approached by means of a balcony resting on marble brackets. Like the other *columbaria*, this belongs to the earlier Julio-Claudian period, but it seems to have been reopened (as many others were) in the

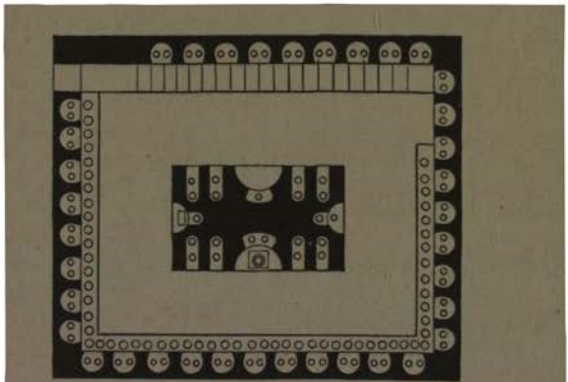


FIG. 34. Plan of *Columbarium*.

second century, when burials took place on the floors of the corridors. Near the three *columbaria* which have been described is a fourth, close to the Porta Latina, which is popularly called the 'Columbarium of Pomponius Hylas', since a tablet bearing that name occupies a conspicuous position near the entrance; it was, however, built, like so many others, by subscriptions or speculation. As it served the needs of a wealthier class than the others, we find that—except on the entrance-wall—the plain *columbaria* are replaced by *aediculae* with stuccoed pediments decorated in relief. The largest and finest of the Roman *columbaria* was that discovered on the Appian Way in 1726, which had room for at least 3,000 burials and was built for the slaves and freedmen of the Empress Livia. The principal chamber forms a large rectangle with four square and four semicircular niches; there is also a smaller chamber at a higher level and a suite of rooms for the custodians. Few traces of this monument now remain. Of the remaining examples the most interesting is one found on the Esquiline, in

which the blank spaces of the walls, above the three rows of *columbaria*, were adorned with paintings illustrating the legend of Rome's foundation; these have been removed to the Museo delle Terme. It is generally to be assumed that these monuments were built by burial societies (*collegia funeraticia*) for the use of their members, or of others to whom the places were sold. The niches were commonly assigned by lot; thus we find that in the 'Tomb of the Thirty-six Associates' on the Latin Way each member of the group cast lots for five places. The urns (*ollae*) were let into the floor of the niches and covered with lids; this practice distinguishes the Roman *columbaria* from the family vault whose niches were filled with decorated urns; a few such are, however, found, and busts were at times placed in the *columbaria*.

To describe in all their variety the funeral monuments set up by the wealthier Romans on the roads leading out of the city is of course impossible. Two types, however, are worthy of special notice. The first of these is the *temple*. Many such burial-places are to be seen, stripped of their decorations in marble, stucco, or terra-cotta, beside the main roads leading out of Rome. On Pl. XXXIII is shown a peculiarly perfect example, now converted to the uses of the farm, and popularly known as the 'Temple of the Deus Rediculus', a shrine erected on the spot where Hannibal turned back in his retreat from Rome. It belongs in reality to the second century A.D., and has two stories in the interior, in the upper of which the rites in honour of the dead were celebrated. We may form some idea of the aspect of such a building in ancient times from the relief reproduced on Pl. XXXIV, which is one of a series now in the Lateran Museum, discovered in a tomb on the Via Latina belonging to the family of the Haterii. The relief is difficult of comprehension in some details—it is not easy to say why the enormous crane worked by pigmy-like figures was introduced—but we can distinguish the lower story which (as in the building just described) formed the tomb-chamber, with its side entrance and gratings for ventilation, from the upper structure, or grave-temple, approached by a flight of steps leading to a columned portico, and decorated with reliefs and medallion-busts of members of the family. Being unable to show the interior of the building, the artist has (it seems) represented the funeral couch on which one of the Haterii was laid, and before which are grouped three children and an aged servant engaged in burning incense. This gives, as it were, an idealized version of the scenes enacted within the temple (cf. p. 276).

The second type of Roman tomb—much rarer, but more conspicuous—is the circular mausoleum, which may, like the circular temple (cf. p. 89), be of very ancient origin. Two examples are familiar to all who are acquainted with Rome and its monuments—the tomb of Caecilia Metella on the Appian Way, and the mausoleum of Hadrian (Castel St. Angelo), the ancient aspect of which has been completely transformed by the additions of the

Tomb near Rome.

Relief from tomb of the Haterii.

Tomb of Vergilius Eurysaces.

popes in the Middle Ages and the Renaissance. It consisted in a massive cylinder, faced with marble and adorned with pilasters, and a cornice supporting a row of statues standing upon a square base. In the centre of the cylinder was the tomb-chamber, approached by a spiral passage; and above was raised a tumulus of earth planted with a grove of cypresses, heaped up about a central structure upon which stood a colossal statue of Hadrian in a four-horse chariot. The tomb of Caecilia Metella, daughter of Metellus Creticus and wife of M. Licinius Crassus (son of the triumvir), though crowned with mediaeval battlements by the Caetani, who converted it into a fortress, preserves much of its ancient aspect. The cylinder is faced with travertine, except for the frieze of *bucrania* and festoons and the plaque bearing the inscription, with the Victory and trophies above it, which are of marble. Another mausoleum of the same type is that of the Plautii near Tivoli, which was fortified in the Middle Ages as a *tête-de-pont*, since it stands at the end of the bridge by which the Via Tiburtina crosses the Anio; its inscriptions show that it belonged to a family whose members gained distinction under the emperors of the Julio-Claudian house.[1]

The temple and the mausoleum are of course very far from exhausting the variety of type displayed by Roman tombs (cf. the street of tombs at Pompeii, Pl. XXXI). The most remarkable example of individual caprice is supplied by the monument of the *pistor* (cf. p. 306), M. Vergilius Eurysaces, which stands just outside the Porta Maggiore at Rome (Pl. XXXV), and owes its preservation to the fact that it was concealed by a flanking tower pulled down in 1838. It is almost cubical in shape, and is decorated with rows of stone cylinders representing measures of grain, and a frieze with scenes from the processes of the bakery.

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PAULY-WISSOWA, s. v. 'Columbarium.'
MAU-KELSEY, *Pompeii*, part iv.

[1] The Mausoleum of Augustus (Map 3), erected in 27 B.C., consisted in a circular drum surmounted by a tumulus planted with evergreens and crowned by a statue of Augustus. The outer wall of the drum now forms part of a concert-hall.

CHAPTER III

WAR

§ 1. Equipment and Tactics.

The early history of the Roman army can only be traced by combining various forms of evidence. Tradition is of comparatively little value, since the authentic records of early Rome had perished before the annalists upon whose works we ultimately depend began to write; thus, for example, the battle-pieces inserted in Livy's history cannot be used as evidence and are not even consistent with his narrative. From archaeology and survivals we can infer that in the earliest period king and nobles rode to battle in chariots, and, as in Homeric warfare, met their enemies in single combat, while the common host were of small account. The *currus* in which the Roman *triumphator* rode in procession was the direct descendant of that in which the early kings had gone forth to war, just as his dress was copied from that of the monarch. We shall see (p. 284) that the Salii, or 'dancing priests' of Mars, were charged with the care of the *ancilia*, or shields believed to have fallen from heaven, and that these were of the peculiar Mycenaean form with sides drawn in in the shape of a figure of eight; the 'spears of Mars' too, which were kept in his shrine, belonged to the equipment of the earliest of Rome's warriors. It is probable that this mode of fighting was learnt by the Romans from the Etruscans; bronze chariots have been found at several sites in Etruria, and early terra-cotta plaques are preserved which show the chieftain mounting his car. The *tensa* (Pl. XLIX) used in religious processions may give us some idea of its form.

According to Roman tradition, the army as organized by Romulus consisted of 3,000 footmen, 1,000 from each of the three tribes, commanded by three *tribuni militum*, and 300 horsemen (*celeres*) under three *tribuni celerum*. The numbers of the infantry have no claim upon our credence; but those of the cavalry must be examined more closely. In historical times the Roman *equites* (who eventually became a political rather than a military class) were organized in eighteen centuries; and six of these—called the *sex suffragia* or 'six voting-units'—enjoyed precedence over the rest. Tradition is confused as to the gradual increase in the number of *equites*, but it seems clear that the three centuries of Romulus were doubled, and that twelve were added when the reform ascribed to Servius Tullius took place. Now there is good evidence for the view that the *equites* of early Rome, like the ἱππεῖς of Greece, were a force, not of cavalry, but of mounted infantry. Even in Livy's narrative this is implied. More than

once, in describing the wars of the fifth century B.C., he tells us that the *equites* 'dismounted' and attacked the enemy on foot; and where he speaks of the cavalry as throwing a hostile phalanx into confusion, he is no doubt following traditions which he did not fully understand. Terra-cotta plaques have been found in Rome which show horsemen with two chargers apiece; and these throw light on the statement of Roman antiquarians that in early times the *equites* went into battle 'with pairs of horses'. Not all of them, however; for one historian tells us that when 'Tarquinius' doubled the numbers of the cavalry, he gave to the *equites priores* two horses apiece: this implies that the *equites posteriores* had only one horse—a distinction which, as archaeological evidence shows, existed in Greece. Thus the 'six centuries' of early Rome contained both classes of horsemen.

We now come to the reform ascribed by Roman tradition to Servius Tullius, which was at once political and military. The accounts which we possess of this reform differ in detail, but agree touching the main feature of the new model—a phalanx of spearmen whose equipment was graduated according to their property. There were five *classes*, each of which was divided into a number of *centuriae* which, when the people met in assembly, served as voting-divisions. The equipment of the various classes was as follows. The first had full hoplite armour after the Greek model, spear and sword, helmet (*galea*), cuirass (*lorica*), greaves (*ocreae*), and round buckler (*clipeus*). The second class wore no cuirass, and used the semi-cylindrical shield (*scutum*) in place of the buckler. The third were without greaves. In Livy's account the fourth and fifth classes are light troops, the former being armed only with spear and dart, the latter with sling and stones; but Dionysius of Halicarnassus gives spear, sword, and shield to the fourth, dart and sling to the fifth.[1] There were other voting-divisions beside those of the army, also called *centuriae*—two of artificers (*fabri*), and one each of horn-blowers, trumpeters, and *accensi*, whose function is uncertain; and the *capite censi*, who comprised the proletariate, formed a century apart. The cavalry, as already explained, were organized in eighteen *centuriae*, which in voting took precedence of the rest.

We can place no faith in the details of this reform. Many critics hold that the 'centuries' were from the first voting-divisions, not tactical units, and that the timocratic organization of the assembly dates from the Republican epoch. However this may be, the fact is clear that at some period in their early history the Romans adopted the principle of the Greek hoplite phalanx of pikemen. The graduation of equipment in its various ranks according to census ratings is much more doubtful. The word *classis*, which in later times was applied to each of the five 'classes', originally denoted the phalanx as a whole; those who fought in it were called *classici*, the rest of the citizen body, who served as light

[1] The troops of the fourth and fifth classes were called *rorarii*.

troops, were *infra classem*. The 'levy in arms' (*classis procincta*) was distinguished from the 'levy of sailors' (*classis navalis*) when Rome first formed a fleet; and later still the word *classis* was restricted to the sense of fleet when used without qualification. We cannot determine with certainty the date at which the Romans adopted the phalanx; there was a tradition that the 'phalanx and shield of bronze' were used by the Etruscans and borrowed from them by the Romans in self-defence; and Servius Tullius, whether he was a historical character or not, represents a dynasty of Etruscan kings ruling in Rome. More than this we cannot say.

We can infer something about the early phalanx from the names which survived, though with altered meaning, in the later Roman army. In this the front ranks were called *hastati*, the next *principes*, and the reserve *triarii*. It is evident that the *principes* must originally have been the front rank; the view of Livy, who transfers to the fourth century B.C. the usage of a later time, is that the *hastati* were the younger men, who bore the brunt of the first onslaught, the *principes* those of maturer years; but this is clearly artificial. It is less easy to be certain why the *triarii* were called *pilani*, the *hastati* and *principes antepilani*. It would be natural to assume that the phalanx was armed with the *hasta*, the reserve with the javelin or *pilum*, of which we shall presently speak; in that case the equipment of the several ranks must have been exactly reversed in the Middle Republic, for the *hastati* and *principes* were then armed with the *pilum*, the *triarii* with the *hasta*. But the word *pilanus* seems to be derived, not from *pilum*, but from *pilus*, for the chief centurion of the *triarii* was called the 'centurion of the *primus pilus*'; and *pilus* appears to signify a body of troops drawn up in close formation, as, no doubt, were the reserves of the Roman legion.

It was not, however, to the hoplite phalanx that Rome owed her triumphs. The army which conquered the world was armed, not with the spear, but with the javelin, and disposed not as a phalanx but in companies (*manipuli*) of two centuries each or 120 men. We have no conclusive evidence as to the date of these changes, but such indications as we possess point to the fourth century B.C. We are told by Plutarch that Camillus, the conqueror of Veii, brought about the payment of the citizen-troops, who had hitherto served during the campaigning months at their own expense, but were compelled by the siege of Veii to take part in winter operations; and that he also introduced the *scutum*, or semi-cylindrical shield, in place of the *clipeus*, or round buckler, and the javelin, or *pilum*. Livy more cautiously states that the *scutum* was adopted 'after the Romans had begun to receive pay', and that at the same time the close order of the phalanx was replaced by the more open manipular formation. There was, however, a different tradition, preserved to us in an anonymous Greek fragment possibly based on the history of Fabius Pictor, who was a contemporary of Hannibal. According to this writer the *scutum* and *pilum*

replaced the *clipeus* and *hasta* during the Samnite Wars; and it was then, too, that Rome first formed an efficient cavalry force, having hitherto depended mainly on infantry. The passage has been quoted in support of the view mentioned above, that the *equites* of early Rome were mounted footmen rather than true cavalry; but it is quite as important for the history of the equipment of the Roman foot-soldier. The tradition which it enshrines gains weight from the phrase which Sallust puts into the mouth of Julius Caesar, 'we borrowed the armour and weapons of our soldiers from the Samnites'; and the *scutum* was part of the equipment of the gladiator called a 'Samnite' (see p. 360). As for the *pilum*, it is by various writers assigned to Etruscans, Iberians, Sabines, and Samnites as a national weapon; and the last-named people have the best claim if, as seems likely, it was supported by Varro. The form of the *pilum* is well known to us, both from the description of Polybius and from extant examples. The weapon described by Polybius had two parts, the wooden shaft three cubits (4½ feet) long, and the barbed iron point, which was of the same length but extended half-way down the shaft, so that the whole length of the *pilum* was about 6¼ feet. Among the *pila* discovered in modern excavations those found at Numantia, dating from the famous siege which ended in 133 B. C., naturally correspond most closely with Polybius's description. Marius, who armed the *triarii* with the *pilum* instead of the *hasta*, and thus gave to the whole legion a uniform equipment, ordered one of the two rivets by which the point was fixed to the shaft to be made of wood. This broke when the *pilum* pierced an enemy's shield, and as the point became bent it was impossible for the enemy to make use of the weapon. For the *pilum* described by Polybius a lighter weapon was substituted in the course of the first century B. C., the various forms of which are illustrated by finds made in Caesar's lines of circumvallation at Alesia (Alise-Ste-Reine). The iron head was shortened to 3 feet and less, and was fixed in the shaft by means of a tang about 8 inches long; the base was reinforced and took the shape of a truncated pyramid, while the point was either conical, pyramidal, barbed, or heart-shaped (Fig. 35*a*). As used in Imperial times the *pilum* was even lighter, as we see from examples found in the camps on the Rhine.

Polybius mentions a 'heavy' *pilum* as well as the light one of which we have traced the development; and there are several references in ancient historians to the *pilum murale*, which was chiefly used in siege-warfare by the defenders of walled cities. What this was has been shown by recent discoveries at the camp of Haltern in Westphalia, which is of early Imperial date. Here were found a number of wooden weapons, with sharp points at either end and a thin section in the middle by which they could be grasped, as in Fig. 35. The shape is that of an ancient pestle, which was called *pilum* by the Romans and gave its name to this weapon (which we find described, though not named, by a Greek writer on

siege-warfare). The length of the *pila muralia* found at Haltern averages about 5 feet 8 inches; the central part is about 7 inches long.

The introduction of the *pilum*, which was hurled by the legionaries before charging the enemy at the sword-point, determined the character of Roman tactics, and put an end to the phalanx, which finds no place in the description of the Roman military system by Polybius. The legion in his time consisted of the heavy-armed troops, *hastati* (1,200), *principes* (1,200), and *triarii* (600), who were all equipped alike, except that the *triarii* still carried the *hasta*, and the light troops or *velites* (1,200). The defensive armour of the heavy troops consisted in the helmet with tall crest, the *lorica* or leathern jerkin, over which the common soldier wore a metal 'heart-protector' and the rich a cuirass of chain-mail, and the *scutum*, or oblong shield, about 4 feet long by 2½ feet broad, which was built upon a wooden framework with cloth and calf-skin and bent into a semi-cylindrical shape. For offence the legionary was armed with the *pilum* and Spanish sword, worn at the right side. This

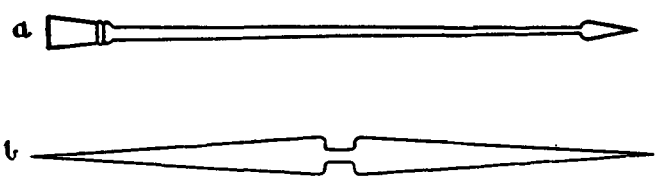

FIG. 35. (*a*) Iron point of *pilum*. (*b*) *Pilum murale*.

had replaced the Gallic sword, which the Romans had adopted in their wars with the northern invaders. The Gallic sword had a long blade with a rounded point, used for cutting only; the Spanish *gladius* was a short, cut-and-thrust weapon, used in the hand-to-hand fight which followed the discharge of the *pilum*. The *velites*, according to Polybius, were armed with sword, darts (γρόσφοι, in Latin writers *veruta* or *gaesa*), and the light shield known as the *parma*. They are not, however, mentioned after the Jugurthine War, and the legion henceforth consisted solely of heavy infantry all armed alike; its full strength was raised by Marius to 6,000.

It is not until the closing years of the Republic that the monuments come to our aid in picturing the equipment of the Roman soldier; from thence onward we have, in historical reliefs and portraits on tombstones, abundant materials. The earliest monument of importance is a relief in the Louvre which shows a victorious general offering the *suovetaurilia* (cf. p. 292) for the purification of his army. It is generally believed that he is Cn. Domitius Ahenobarbus, who built a temple to Neptune in the Campus Martius about 35–32 B.C.[1] The soldiers wear the high-crested

[1] The relief must in any case be assigned to this period, even if (as some hold) the subject is an earlier Domitius, who defeated the Allobroges in 121 B.C.

helmet and coat of chain-mail described by Polybius, the short sword hangs at the right side, and the *scutum* is oval in shape with an iron band running down the centre. The commander wears a metal cuirass with lappets, such as those which we see in Imperial portraits: the finest extant example is that worn by Augustus in the statue of Prima Porta (Pl. LXIII).

The tactics of the Roman legion are not clearly explained by ancient writers. The open 'manipular' formation which replaced the phalanx is described by Livy (viii. 8) in a passage which, though obscurely expressed, appears to indicate that the thirty maniples of the legion were drawn up in three lines—*hastati*, *principes*, and *triarii*—in a chess-board pattern (*quincunx*), in order that those of the rear lines might be able to advance and fill the gaps made by the fight. It is very hard to see how this can have been put into practice, and it has been supposed that the *quincunx* belonged to the order of march (*agmen*), and not to the order of battle (*acies*). From the time of Marius onwards the cohort of three maniples appears as the tactical unit in all descriptions of battles; and from the writings of Caesar and his officers it appears that the usual battle formation was the *triplex acies*, in which there were four cohorts in the first line and three in the second and third. The *simplex acies* was scarcely used except in defence of a fortified camp, and the *duplex* and *quadruplex* only when the nature of the ground required it. It has been contended that the formation of the *acies triplex* was open, so that the cohorts of the second line could fill the intervals between those of the first; but Caesar supplies no evidence of this, and the intervals were probably small. The depth of the cohort was normally eight file; Pompey's cohorts at Pharsalus were drawn up ten deep, but this was unusual. We know little of the handling of large bodies of troops. The rule under the Republic was that the legions occupied the centre of the line, the 'auxiliaries' (see below, p. 205) the 'wings'—hence they were called *ala sinistra* and *ala dextra sociorum*. On the extreme left was the cavalry of the allies, on the right the Roman *equites*, so long as they continued to exist. Cato in a tract, *de re militari*, copied by the later writer Vegetius, distinguished various battle formations—the unbroken front (*fronte longa*), the *acies obliqua* in which one of the wings led the advance, and the *acies sinuata* in which the centre was held back while both wings advanced. Again, the centre might be pushed forward in a crescent formation (as was done by Hannibal at Cannae) or in the wedge-like *cuneus*. If the enemy adopted these tactics, they were met by the V-shaped *forfex*. Caesar uses *orbis* of the formation adopted when a force was attacked on all sides, where in modern times a square is formed.

We have much fuller information about the organization of the standing army of the Empire. The legions were no longer raised afresh for each campaign, as they had been in the days of the citizen levy, when two consular armies, each of two legions,

had once formed the normal field force[1]; nor were they enlisted in the service of the individual commander and bound to him by the military oath (*sacramentum*) as long as his command lasted and no longer (as in the period of the Civil Wars, which were practically fought by mercenary bands), but were permanent corps retaining their numbering and titles under successive emperors, and often remaining in the same frontier camps for a considerable number of years. Each legion still had ten cohorts and sixty centuries, but the first cohort contained 1,000 men and the others probably 500 each ; the maniple continued to exist, as we shall find in considering the ensigns and encampments, and the old terms *hastati*, *principes*, and *triarii* (or rather *pili*) were retained in order to express the order of seniority of the centurions, who rose gradually from the command of the junior (*posterior*) century of *hastati* of the tenth cohort to the position of *primus pilus*, i.e. the *pilus prior* of the first cohort.[2] A small force of 120 mounted men (*equites legionis*) was attached to each legion. The legion was under the command of a *legatus legionis*, to be distinguished from the *legatus Augusti pro praetore*, who had the control of the whole military force stationed in a province, and corresponds with the modern army-corps commander, while the *legatus legionis* is to be compared with a general of division. The staff of the *legatus legionis* consisted of the six *tribuni militum* and the *praefectus castrorum* or 'quarter-master', whose importance grew steadily until in the third century he supplanted the *legatus*.

At the close of the Civil Wars the legions under arms numbered about fifty: Augustus retained eighteen, and the number was increased to twenty-five at the close of his reign. The addition of two legions by Claudius, one by Nero, and two by Galba, made the total thirty, which remained unaltered until the time of Septimius Severus, who enrolled the three 'Parthian' legions. The legions were distinguished by numbers—several of which were duplicated, since Augustus allowed those raised by his fellow triumvirs to retain the numeration belonging to them in the armies to which they had belonged—and by titles severally derived from their place of origin or service or from the name of an emperor or commander associated with their history; thus the *Legio* XXII *Deiotariana*, which served in Egypt, was formed of the Galatian levies of King Deiotarus.

The equipment of the Imperial army is best illustrated by the monuments of the second century, and above all the reliefs of Trajan's Column (cf. Plate XIII), which present a picture confirmed in every detail by finds such as those made in the camp of Carnuntum on the Danube, or in the frontier forts of Northern Britain and the Rhine. The cuirass worn by the legionary

[1] This number was of course largely exceeded in the great wars. In the second Punic War, for example, as many as twenty-seven were in the field at once.

[2] The centurions of the first cohort were called *primi ordines*.

soldier appears in three forms, all of which are seen on one of the relief-panels from a monument of Marcus Aurelius used in the decoration of the Arch of Constantine (Pl. XXXVI). The most usual is that which has been called *lorica segmentata*, although the name has no ancient authority. It was composed of a breastplate and backplate of iron, below which were worn iron hoops encircling the body and fastened with hinges at the back, while the shoulders were protected by similar strips. The strips found at Carnuntum vary in width from 2 to 3 inches. Portions of an iron cuirass of this kind with brass mountings were found at Newstead. We first see this cuirass—which is not mentioned in literary sources—on the Column of Trajan, and it is very common on second-century monuments; e.g. it is worn by the guardsmen who take part in the *decursio* represented on the base of the Column of Antoninus Pius (p. 290, Pl. XLVIII). A leathern jerkin was worn beneath it. The coat of chain-mail (*lorica hamis conserta, ex anulis ferrea tunica*) is often represented on the monuments, and fragments of such have been found. There is also a third type, formed of metal scales (*squamae*) strung together in rows, which is usually shown as worn by officers: we are told by Cassius Dio that it was used by the praetorians in his time, until Macrinus lightened their equipment. Over the cuirass was worn the *balteus* or baldric, by which the sword was hung, and the waist was girt with the *cingulum militiae*, a leathern girdle studded with metal plates, from which hung a kind of apron formed by strips of leather as a protection for the abdomen. The helmet had various forms, and was made of iron, bronze, or brass, with padding. The simplest was a plain hemispherical cap of metal, prolonged at the back for the protection of the neck, with hinged cheek-pieces. More elaborate examples have raised mountings, notably a band of metal round the front which forms a peak, and many are decorated with reliefs.[1] On the Column of Trajan the helmets of the legionaries are surmounted by a crest or metal ring. The shield was either semi-cylindrical—the *scutum* proper, though smaller than that used in Republican times—hexagonal, or oval, this last being generally used by 'auxiliaries'. In the centre was a raised boss or *umbo* bearing various ornamental devices, of which the thunderbolt is the commonest. It was made of wood covered with leather, and bound together with a metal framework and mountings, often in the shape of ribs attached to the *umbo*.

As a mark of distinction, certain ornaments were conferred on Roman soldiers which were called the *dona militaria*. These decorations are mentioned by Polybius, who tells us that they were bestowed by the commander in an assembly of the army,

[1] Beside the armour used in actual warfare, the Roman cavalry wore light tournament armour for the purpose of certain evolutions and exercises. To this belonged the vizor helmets with padded masks—some of them fine works of art—of which a number have been found, as for example at Newstead. Arrian describes these exercises, which were of Celtic origin.

M. Aurelius delivering an *allocutio*. *Anderson.*

and that the soldier who wounded an enemy received a lance—the *hasta pura* of later authorities, which was a shaft without a point; while he who killed one and brought back his spoils received a bowl (*patera*) if a foot-soldier and a φιάλη or bowl (cf. p. 212) if a cavalry-man. In Livy's narrative other decorations are mentioned, such as the *armilla* or bracelet, the *torques* or twisted necklace, such as was worn by the Celtic peoples and doubtless found its way to Rome from the spoils of defeated Gauls; and minor ornaments such as chains (*catellae*) and brooches (*fibulae*). More important were the crowns (*coronae*) of various kinds, differing according to the exploits by which they were earned. Setting aside the *corona obsidionalis*, a wreath of grass bestowed upon the deliverer of a beleaguered army, of which a few instances are recorded in Republican history, and the *corona triumphalis*, or bay-wreath worn by the *triumphator*, the crowns regularly bestowed on Roman soldiers were:

(*a*) the *corona civica*, a wreath of oak-leaves worn by one who had saved the life of a comrade;
(*b*) the *corona navalis* (also *c. classica* or *rostrata*), adorned with representations of ship's prows, given to the man who first boarded an enemy's ship;
(*c*) the *corona muralis*, in the form of a city wall, for the leader of a storming-party;
(*d*) the *corona vallaris*, in the form of a rampart, earned by the soldier who first entered an enemy's camp;
(*e*) the *corona aurea*, a plain gold crown given for distinguished bravery in the field.

Lastly, the *vexillum* was a small flag with silver mountings.

In Republican times these decorations retained their original significance. Pliny tells us that L. Siccius Dentatus received 18 *hastae purae*, 25 *phalerae*, 83 *torques*, 160 *armillae*, and 26 *coronae* of various kinds; and though the tale is legendary, it illustrates the freedom with which such marks of distinction were conferred. Under the Empire these orders, as we may call them, were made subject to definite rules depending on the rank of the recipients; these we can to some extent infer from the numerous inscriptions in which they are mentioned. We observe a distinction between the minor decorations—*armillae*, *phalerae*, and *torques*—and those of greater value, *coronae*, *hastae purae*, and *vexilla*. The minor decorations were never given to officers, the greater ones seldom (the *vexillum* never) to private soldiers. Centurions hold an intermediate position. They received both the minor decorations and *coronae*, but rarely the *hasta pura* and never the *vexillum*. Fig. 36 shows the tombstone of one M. Caelius, centurion of the eighteenth legion, who lost his life when that corps was cut to pieces in the defeat of Varus by the Germans (A. D. 9). He wears *armillae* on both arms, *phalerae* decorated with Gorgon's heads and fastened on a framework upon his breast, *torques* suspended on either shoulder,

and the *corona civica*.[1] This is a typical case. *Praefecti* and *tribuni* usually received one of each of the higher decorations, but sometimes two. *Legati*, if of quaestorian rank, could earn three *coronae*, two *hastae* and two *vexilla*; if of praetorian, three of each kind; if of consular standing, four. It was apparently usual for

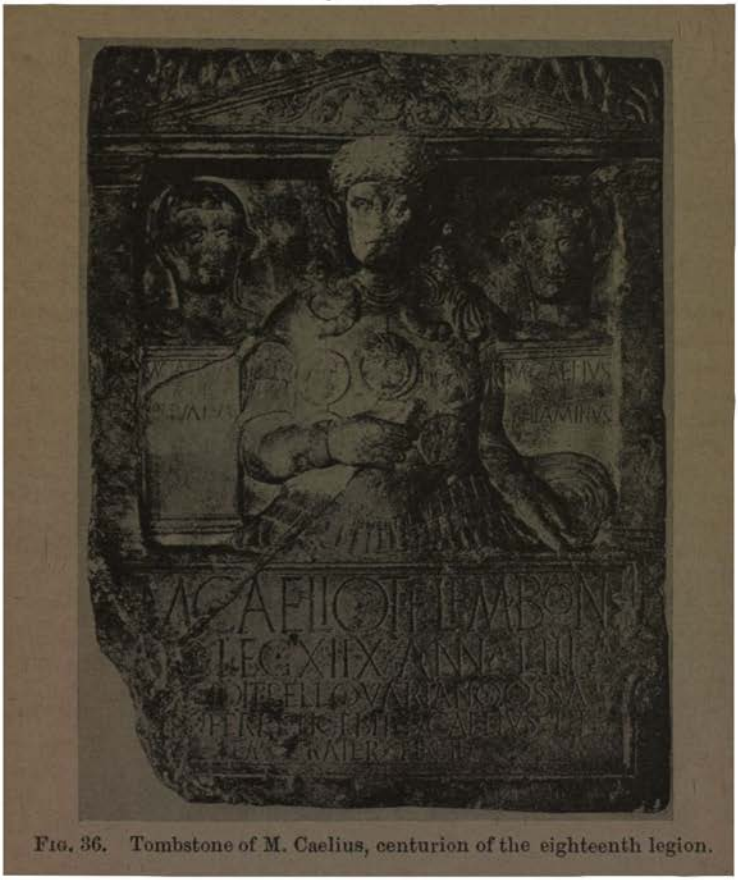

FIG. 36. Tombstone of M. Caelius, centurion of the eighteenth legion.

the three minor and three higher decorations to be granted simultaneously, as their significance had become conventional.

Besides the citizen infantry of the legions, the Romans employed contingents drawn from their allies, under the name of *auxilia*. Up to the close of the Social War these were furnished mainly by the Italian communities, although, for example, corps of archers and slingers were raised further afield; but when Italy was enfranchised, her inhabitants became liable for service in the

[1] In his left hand he carries the *vitis* or 'vine-staff', the symbol of the centurion's authority.

legions and the *auxilia* were formed only by foreign contingents. We know little as to their organization in the time of Caesar and the Civil Wars; under the Empire they formed regiments (*cohortes*) generally bearing their national designation (*cohortes Gallorum, Hispanorum*, &c.) recruited and quartered in the various subject territories.[1] The nominal strength of these regiments was either 500 (*cohors quingenaria*) or 1,000 (*cohors miliaria*), and some were exclusively composed of infantry (*cohortes peditatae*), whilst others had mounted sections (*cohortes equitatae*). They were at first lightly armed after their national fashion; but in process of time they became assimilated—with some exceptions—to the citizen troops in equipment. The revolt of Civilis on the Rhine (A.D. 69–70) opened the eyes of the Romans as to the danger of entrusting native troops with the defence of their own abodes, and henceforward the *auxilia* were transplanted for service in distant parts of the Empire. Thus we find in the West corps of archers (*cohortes sagittariorum*) recruited in the East, chiefly in Syria and the neighbouring lands. Such archers are more than once represented on Trajan's Column, as in Fig. 37, where they wear a conical helmet with cheek- and neck-pieces, a long tunic reaching to the ankles, a leathern jerkin with serrated edge, and a wrist-guard on the left fore-arm, and are armed with a sword as well as the bow. Cichorius believes that the corps here represented was of Palmyrene origin; and we find a *numerus* (v. *infra*) of Palmyrenes garrisoned in Dacia. In another scene the archers wear the *lorica squamata*.

Generally speaking, the regular *cohortes auxiliariae* were equipped with a short tunic, over which was worn a jerkin like that of the archer in Fig. 37, breeches, a neck-cloth (*focale*), *caligae*, and a round helmet crowned by a ring, and armed with an oval shield (sometimes a *scutum*) and sword; in fact, the costume of the cavalry-man in Fig. 40 is practically identical with that of the auxiliary infantry. There were, however, also *irregular* corps, known as *numeri*, which preserved their national equipment. The clubman shown in Fig. 38 (from Trajan's Column) is naked to the waist and wears only a pair of breeches, the upper part of which is rolled and girt at the waist, and is armed with sword and shield as well as the club (which was studded with nails); he is thought to be of German stock. The slinger (*funditor*) and stone-thrower (*libritor*) are shown working in conjunction (Fig. 39), just as we find them in two passages of Tacitus where they are mentioned (*Ann.* ii. 20, xiii. 39).

We know little of the equipment of the Roman cavalry in early times. Polybius tells us that they were clothed only with a light tunic (περίζωμα, which cannot mean a 'loin-cloth' but a garment girt at the waist), and armed with a light spear and

[1] A few such corps were raised by voluntary enlistment among the Roman citizens of Italy and the provinces, and were called *cohortes civium Romanorum voluntariorum*.

shield 'in the shape of a sacrificial cake', but that in later times

FIG. 37. Palmyrene archer (from Trajan's Column).

FIG. 38. German clubman (from Trajan's Column).

FIG. 39. *Funditor* and *libritor* (from Trajan's Column).

the Greek equipment was adopted, i.e. cuirass, lance with pointed ferule, and heavy shield. From Livy we gather that they were

also armed with the Spanish sword. The citizen cavalry consisted partly of the younger members of the eighteen *centuriae* already mentioned, who were furnished with horses at the public cost (*equites equo publico*), partly of volunteers who supplied their own horses (*equites equo privato*). Three hundred of these were assigned to each legion and divided into ten squadrons (*turmae*) of thirty each. But in the course of the second Punic War the cavalry furnished by the Italian allies of Rome came to outnumber the citizen force, and this latter ceased to be of importance and in time disappeared; those qualified for service on horseback were employed only for staff duties. More than this, the place of the citizen cavalry was taken not only, nor chiefly, by allied contingents from Italy, but by non-Italian corps, for the most part recruited in Spain and Africa. This practice dates from the second Punic War, and, as it seems, was first employed on a large scale by Scipio Africanus. These *auxilia* become increasingly important during the second century B. C., and after the Social War and the enfranchisement of Italy which followed it constitute the whole mounted force of Rome. From this force were drawn the 300 *equites* still assigned to each legion during the last century of the Republic; but the main body of allied horsemen was usually divided into two portions and placed on the wings (*alae*), and hence the cavalry regiments formed in Imperial times, which varied in strength from 500 (in practice 480) to 1,000 men, bore the name of *alae*.[1] The equipment of these 'auxiliary' horsemen is illustrated by many scenes from Trajan's Column, from which Fig. 40 is taken. The *eques* wears a leathern jerkin (*lorica*) over a tunic and drawers, a round helmet with cheek-pieces, and a knotted kerchief round his neck; he is armed with an oval shield, a sword[2] hangs at his right side, and though his lance is not rendered plastically it was doubtless, like so many details in these reliefs, shown in painting. The fringed saddle-cloth is clearly seen. The irregular cavalry employed by the emperors are also portrayed on the column. Fig. 41 shows one of the Moorish horsemen who, as we know, did good service in the Dacian Wars under their sheikh, Lusius Quietus, afterwards disgraced by Hadrian. They are easily recognized by their elaborate ringlets of hair; they are clad only in the tunic, and ride barebacked. Their oval shields are shown, but not their weapons of offence. The *catafractarii*, or mailed horsemen, of whom we read in inscriptions, were borrowed from the East, where we find them in the service of the Parthians. In the third century A.D. the cavalry, which had hitherto been of secondary importance in the Imperial army, was reorganized by Gallienus, and in some

[1] The *cohortes equitatae* contained a mounted section of the same class as the *alae*; the *equites legionis*, now reduced to 120, were Roman citizens, not auxiliaries.

[2] The sword carried by the auxiliaries, called the *spatha*, had a longer and narrower blade than the *gladius* of the legionary. It was probably a Celtic weapon.

degree supplied the lack of a 'striking force'. More important reforms were, however, introduced by Diocletian, who separated

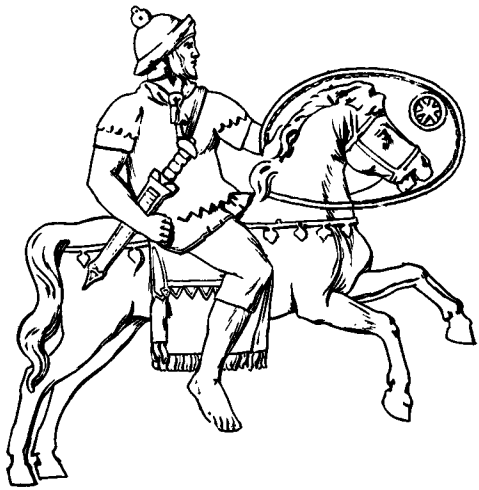

FIG. 40. Roman auxiliary cavalry-man (from Trajan's Column).

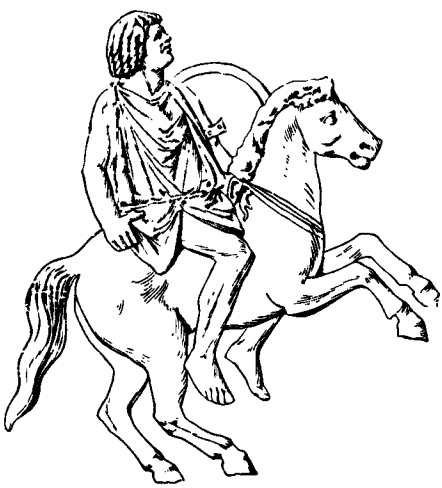

FIG. 41. Moorish irregular cavalry-man (from Trajan's Column).

from the garrison army of the frontiers (*limitanei*, *riparienses*) a permanent field-force, destined to accompany the emperor or one of his colleagues in offensive warfare, and hence called *palatini* or *comitatenses*. In the *Notitia Dignitatum* we possess an army list

of the close of the fourth century, from which the names and number of the various corps may be learnt; but the details of their organization remain obscure in many points. It is certain, however, that the legions, which were largely increased in number (there were about 170 under the new system), were at the same time greatly reduced in strength, probably becoming battalions of 1,000 men instead of the brigades of the early Empire.

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§ 2. ENSIGNS.

According to a tradition which may be as old as Varro, Romulus himself gave the Roman army its first ensigns in the form of bundles of hay (*manipuli*) fixed on poles, which served as rallying-points for the sections. It is evident that this is a fiction intended to explain the use of the word *manipulus* in the sense of a tactical unit; but it points to the fact that such an unit existed from early times and was provided with a standard or *signum* by which its evolutions were directed. Thus in Livy the word *signum* is used almost as the equivalent of *manipulus*, and Polybius translates *manipulus* by *σημαία*. The same connexion between *manipulus* and *signum* is constantly implied by Caesar and Tacitus, although in the inscriptions of the Empire the cohort and century only are mentioned. We shall see, however, that in barracks each maniple of two centuries had its separate quarters, and Tacitus speaks of it frequently as a tactical formation. Furthermore, it is clear that only one kind of *signum* was used in the legions, and therefore that it belonged to the maniple alone and not to the cohort and century. The praetorians, like the legions, had their *manipuli* and *signa*; and the monuments—especially the Column of Trajan and the historical reliefs of the second century[1]—enable us to distinguish clearly the ensigns both of the legions and of the guard. Both consist in a lance with a point below by which it could be fixed in the ground. Close to the top of the shaft (which was plated with silver) was a cross-piece of wood, from the ends of which hung purple ribbons ending in silver ivy-leaves. The shaft was adorned with a number of decorations, by the nature of which the legionary *signa* are distinguished from those of the praetorians. At the top of the legionary standard we find sometimes a small

[1] On Pl. XXXVII is reproduced a relief of M. Aurelius, used in the decoration of the attic of the Arch of Constantine, upon which both legionary and praetorian *signa* (see below), as well as a *vexillum*, are shown.

Anderson.

M. Aurelius receiving the homage of barbarian captives.

flag or *vexillum* with an oval shield fastened thereon, sometimes an open hand (which has been explained as symbolical of fidelity and therefore appropriate to such legions as bore the title *pia fidelis*, but is perhaps merely a talisman to avert ill-fortune), sometimes an eagle enclosed within a wreath; but the main ornament consists in a series of saucer-shaped disks. There can be no doubt that the decorations found on legionary ensigns are strictly analogous to the *dona militaria* bestowed on individuals (p. 202); and it will be remembered that, according to Polybius, a φιάλη or *patera* was bestowed on the soldier who brought back an enemy's spoils. This term would precisely describe the decorations of the legionary *signa*. It appears from coin-types that the *signum* also bore a plate which indicated the unit to which it belonged; and both coins and an extant example show that the animal symbols proper to the legion (p. 213 f.) were likewise attached to the *signum*. Below the decorations we find a half-moon, which like the hand was regarded as a charm against ill-luck, and ornaments in the form of tassels.

The *signa* of the praetorian guard are easily distinguished from those just described. The uppermost portion shows much the same variety as that of the legionary ensigns; but the decorations consist, not in *paterae*, but in *coronae* of various kinds alternating with medallion portraits which cannot be identified in the representations which we possess, but obviously represent the emperor and other members of the reigning house. The *coronae* are generally simple *coronae aureae*, but we also find the *corona muralis* and *corona vallaris*. These orders were reserved for the cohorts of the guards, and thus a distinction was drawn precisely parallel to that which we found in the case of the *dona militaria* conferred on individual soldiers. The medallion portraits or *imagines* indicate the attachment of the guards to the person of the emperor. Occasionally we also find statuettes of divinities, such as Victory (on a relief of M. Aurelius) or Jupiter (on a fragment in the Lateran), adorning the *signa* of the guard. On the Arch of Septimius Severus are represented *signa* of exceptional form in that medallions and *paterae* are seen side by side. I conjecture that these belong to the *legiones Parthicae* raised by Severus, which stood in a specially close relation to the emperor (who had disbanded the existing praetorian cohorts on his entry into Rome), and may therefore have obtained the coveted privilege of adorning their ensigns with portraits of their rulers.

It was by means of the manipular *signa* which we have described that the tactical unity of the sections was maintained and their movements directed; hence the great variety of expressions, such as *signa ferre, referre, constituere, movere, tollere, ad laevam ferre, retro recipere* and the like. Unfortunately, we have no means of determining *where* the *signum* was carried. It is beyond doubt that in marching order the *signiferi* or standard-bearers preceded their maniples; but in actual combat their place seems to have been in

the rear of the first line. Livy often uses the term *antesignani* to describe the maniples of the *hastati* (which he also calls *prima signa*), and this would seem to imply that the *signa* were in rear of them during an engagement; but it is just possible that *signa* of a different kind (see below) are meant. In Caesar the word *antesignani* bears a different meaning, and denotes a picked troop of light-armed legionaries who skirmished in front of the line of battle in co-operation with the cavalry.[1]

The costume of the *signiferi* in the second century A. D. is well known to us from the monuments. They were clad in a tunic and leathern jerkin and were armed with the sword, but in place of a helmet they wore a head-dress made of a lion's skin, probably with a metal lining. The words of command were directed to them, being given by the general to the trumpeters (*tubicines*), from whom it was passed to the horn-blowers (*cornicines* and *bucinatores*). These are shown on the Column of Trajan with the same head-dress as the *signiferi*.

Besides the *signa* which we have described, there were other ensigns, not used for tactical purposes, but corresponding rather to the colours of our modern regiments. Pliny tells us that in the early Republic each legion had five standards—the eagle, wolf, minotaur, horse, and bear, which it has been thought may have been the *signa* carried in rear of the *hastati*; but that shortly before the time of Marius the eagle only had come to be used in action, and that Marius abolished the rest. Whatever truth there may be in this statement, it is at least certain that from his time onwards the eagle (*aquila*) was the symbol of the legion, the loss of which was an indelible disgrace and entailed the disbandment of the corps. The eagle was, in Republican times, of silver; under the Empire, of gold; in its beak was a thunderbolt, and it is sometimes represented with the *corona*, as a decoration conferred on the legion, encircling its wings. It was carried on a pole ending in a kind of capital by the *aquilifer* (whose equipment was that of the legionary), but the *primipilus* (p. 201) was responsible for its safe keeping. Thus, while it was carried at the head of the legion on the march, its place was by the first cohort in battle.

Although the other animal figures named by Pliny fell into disuse, the legions of the Empire were each provided with a symbolical ensign of this kind. It has already been mentioned that these symbols adorned the manipular *signa*; thus the head of a wild goat (*capricornus*) is shown on a grave-relief discovered at Mainz, and similar figures are common on the coins (e.g. those of the Severi and Gallienus). The simplest explanation of these appears to be that they are astrological. Thus the legions in the army of Augustus which owed their creation to Julius Caesar, bear the token of the Bull, and Taurus is the sign of the month sacred to Venus, the ancestress of the Julian house. Those raised by Augustus

[1] An inscription found in the armoury of the camp at Lambaesis distinguishes *arma antesignana*, and *postsignana*.

himself carry the Capricorn, the sign under which he was born. The Lion may perhaps have belonged to the legions of the triumvir Lepidus. The Ram is the sign of the *Legio I Minervia* (raised by Domitian), and the Sun enters Aries in the month sacred to Minerva. The Twins of the *Legio II Italica* and the Archer of the *Legio II Parthica* may be similarly explained. There were exceptions to this rule, however, for we are told that the *Legio V Alaudae* received the elephant as its symbol because of its gallant stand against the charge of Juba's elephants at Thapsus (Appian, *Bell. Civ.* ii. 96), and the Boar and Pegasus do not seem to have an astrological meaning. On the Column of Trajan we see the Ram of the *Legio I Minervia* carried on a pole like that of the legionary eagle; it has been thought that the legion is thus singled out for special representation because it was commanded by Hadrian in the second Dacian War.

Under the Empire portraits of the reigning emperor (*imagines*) were also among the ensigns of the legions and carried by *imaginiferi*, who seem to have been attached to the first cohort. It is of these *imagines* that the historians speak when they tell us that on the murder of an emperor his portraits were torn down and trampled under foot by the soldiers. Tacitus tells us that under Tiberius the effigy of Seianus 'was worshipped among the standards of the legions', and a bronze bust, now in Speier, which seems to have been one of the *imagines* carried by the legions of the Rhine, agrees in feature with a portrait head found at Pompeii under circumstances which suggest that it may represent Tiberius's favourite and praetorian prefect. The auxiliary cohorts likewise had their *signa* and *imagines*, which were similar to those of the legions.

The standard of the cavalry regiment was a *vexillum*, or flag which hung from the cross-bar of the lance. The tombstone of a soldier of the *Ala Longiniana*, a regiment recruited in Celtic districts and stationed in Lower Germany, shows such a *vexillum* decorated with the figure of a three-horned ox, which is known to have been a symbol of Gallic mythology. The several *turmae* or squadrons of the *ala* had plain *signa* with ivy-leaves hanging from the cross-bar.[1]

The *vexillum* was also used as the standard of detachments rather than of whole corps; thus a portion of a legion detailed for special service was called a *vexillatio*, and a field force was often composed of several of these drawn from different legions; and we naturally find it as the ensign of mounted sections attached to infantry corps—the *equites legionis*, the *equites* attached to the auxiliary *cohortes equitatae*, and those belonging to each of the praetorian cohorts. On a relief of Marcus Aurelius which, as I believe, represents an *allocutio* delivered by the emperor in the Castra Praetoria at Rome, we see *signiferi* bearing such *vexilla*, and others carrying figures of

[1] Some *alae* possessed special decorations, e.g. the *alae torquatae*: but we have as yet no instance of the representation of such decorations on their *signa*.

divinities—Victoria, Mars, and Hercules. It has been suggested that Mars was the deity specially worshipped by the *speculatores*, who formed the *élite* of the Guards, and Hercules the patron of the *equites singulares*, a mounted bodyguard which existed as early as the reign of Trajan, if not before.

The *signa*, and above all the *aquila*, were objects of religious worship to the Roman soldier. The 'birthday of the eagle' was celebrated as that of the legion; the 'genius of the *signa*' is mentioned in inscriptions. We read in Livy of an oath 'by the *signa* and the eagles', and in Tacitus of a commander who saved himself from the fury of a mutinous legion by 'embracing the *signa* and the eagle and putting himself under the protection of their sanctity'. The shrine in which they were kept in camp is represented on reliefs, e.g. on the 'sword of Tiberius' in the British Museum, where the eagle stands between two *signa*; and its place has, as we shall see, been determined in the camps and *castella* which have been excavated. Beneath it we often find the remains of an underground chamber which served as a strong-room, containing the military chest and the savings-bank of the soldiers; see below, p. 242.

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§ 3. ENGINES OF WAR.

The history of artillery in the ancient world dates from about 400 B. C., when projectile-throwing engines were used by the Syracusans (under the rule of Dionysius I) in the war with Carthage. It is true that in a list of inventions Pliny ascribes the discovery of the *catapulta* to the Cretans and that of the *ballista* to the 'Syrophoenicians'; but we do not hear of their use at any time before the war above mentioned, when they were employed with effect in the siege of Motye (397 B. C.). About fifty years later καταπάλται first appear in the inventories of the Athenian arsenal, and in 340 B. C. they were used in the siege of Byzantium by Philip of Macedon; this is the earliest record of their employment in Greece proper. Stone-throwing engines (λιθοβόλοι), as distinguished from καταπάλται ὀξυβελεῖς, which discharged arrows, are first expressly mentioned in Arrian's account of the siege of Halicarnassus by Alexander the Great. During the Hellenistic period the use of these engines became universal; the park of artillery surrendered by Carthage to the Romans in 149 B. C. comprised 2,000 καταπάλται and λιθοβόλοι. Scientific treatises were written on their construction, and the remains of these form the basis upon which our knowledge of the subject rests. The most important are the work of Philon περὶ βελοποιϊκῶν, which is a portion of his μηχανικὴ σύνταξις

or Handbook of Engines, and the βελοποιϊκά of Heron. The date of these writers is not certain, but they probably lived at Alexandria in the second century B. C. The MSS. of Heron contain sketches of the engines described, which (allowing for errors of transmission) possess considerable value for the purposes of reconstruction. Vitruvius describes the *catapulta* and *ballista* in two chapters of his tenth book which are based on the Alexandrian writers, and the fourth-century historian Ammianus Marcellinus gives an accurate account of the *onager*, to be described presently. The earliest representation in art of such engines is to be seen in a relief from Pergamon, now in Berlin, dating from the reign of Eumenes II (197–159 B. C.). They are shown in several places on the Column of Trajan, and a relief on a tombstone in the Vatican which is described below has recently been recognized as representing a *catapulta*.

It is only within the last few years that the evidence, both literary and monumental, has been satisfactorily interpreted. For this it was necessary that technical knowledge and classical scholarship should render to each other mutual assistance; and the German writers, Rüstow and Köchly, whose work on ancient artillery held the field until recent times, fell short of the highest standard in both respects. The Greek texts were, however, critically edited by Wescher in 1867, and de Reffye, a General in the service of Napoleon III, made some advance in the construction of practical models. The main problems were at length solved by Colonel Schramm, a German officer resident at Metz, who succeeded in constructing engines as powerful as those used by the ancients themselves. His models were exhibited before H. M. the German Emperor on June 16, 1904. His 'Euthytonon' discharged an arrow 88 cm. in length for a distance of 369·5 m., his 'Palintonon' attained a range of 184 m. with a two-pound stone projectile, and 300 m. with a one-pound leaden ball. The Onager fired a one-pound leaden ball 140 m. These engines, together with others which will be mentioned below, are now preserved in the museum at the Saalburg. The ancient texts have meanwhile been carefully sifted and interpreted by Rudolf Schneider, and the publication of a *corpus* of such treatises has been commenced.

The development of ancient artillery was due to the application of a new force to the discharge of projectiles, viz. the elasticity of *torsion* produced by twisted strands of gut or horse-hair. This is entirely different from the elasticity of *tension* developed by the arms of a bow, which act directly upon the string and thus upon the arrow; but in order to bring it to bear, it is necessary to use a mechanical contrivance which was perhaps first applied to the cross-bow.[1] Heron describes a weapon called the γαστραφέτης or 'stomach-bow' (probably to be identified with the Roman *arcuballista*), which is a cross-bow whose stock ends in a concave cross-piece; this was pressed tightly against the body when the

[1] The mediaeval *arbalète à tour* was somewhat similar.

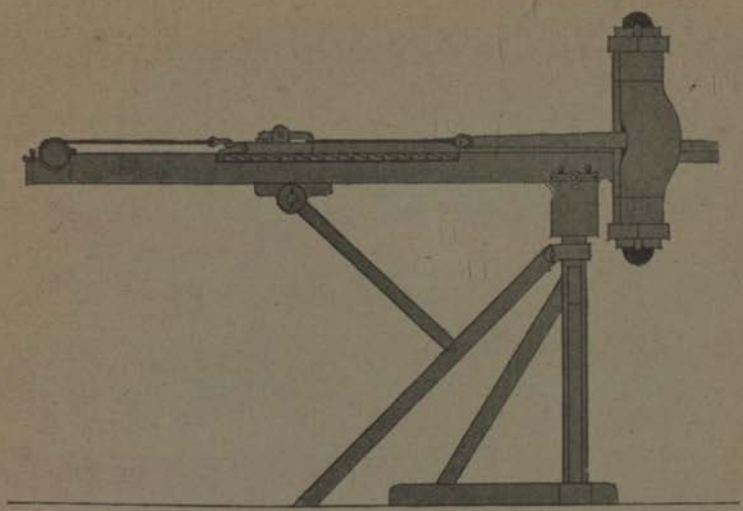
Tombstone of C. Vedennius Moderatus (showing *catapulta* in relief).

bow was strung. In the centre of the stock was a hollow trough or 'pipe' (*σῦριγξ*), and into this fitted a 'projector' (*διώστρα*) of the same shape, in which the arrow was placed. By means of a series of teeth and prongs the projector could be held firmly at the point required when the bow was strung by pressure against the ground; then by withdrawing a bolt it was released and the arrow discharged. This invention made it possible to use contrivances such as the windlass or compound pulley in order to overcome the resistance of the body whose elasticity provided the motive force.

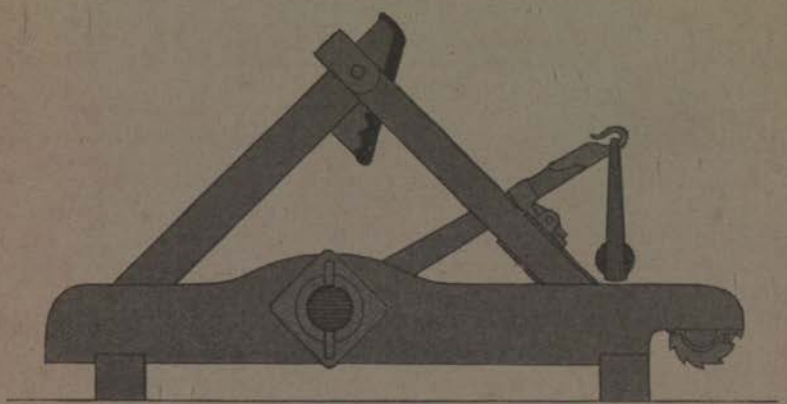
The Greek writers distinguish two kinds of engines, *εὐθύτονα* and *παλίντονα*. The former, we are told, discharged arrows, the latter stones—i. e. the distinction is the same as that between *καταπάλται* and *λιθοβόλοι*. The explanation of the terms is, however, uncertain, since the descriptions of the Alexandrian writers reveal no difference in the principle of construction. It has been conjectured that the *εὐθύτονον* discharged its missile point-blank, whilst the *παλίντονον*, which was a heavier piece of ordnance, was constructed for a plunging fire. Pl. XXXIX A shows a diagram of the *εὐθύτονον* described by Vitruvius in side-view according to Schramm's restoration; the frame of a similar engine, as seen from the front, is shown on the relief figured on Pl. XXXVIII. This relief adorned the tombstone of C. Vedennius Moderatus,[1] a soldier who entered the Sixteenth Legion (then quartered at Mainz) in A. D. 59–60, marched with it to Italy in A. D. 69, and fought for Vitellius; when the legion was disbanded by Vespasian, Vedennius was drafted into the Ninth Praetorian cohort, in which he served until his discharge in A. D. 77. He was retained in the service as an *evocatus Augusti*, and filled the post of *architectus armamentarii* in the Imperial arsenal.

The frame, as the relief shows, was square in outline. The side-pieces were called *παραστάται*, and these, in the engine here represented (which perhaps embodied improvements invented by Vedennius), were convex in front. In the descriptions we read of a second pair of uprights (*μεσοστάται*), and it seems as though the strings were generally exposed to view between the uprights on either side, and the centre of the frame left open; Vedennius, however, protected his *catapulta* from the enemy's missiles by means of a shield in which only a small opening was left for the discharge of the arrow. The cross-pieces of the frame were called *περίτρητα*, and near the ends of each were bored holes, through which the strands of gut or horse-hair passed. These were wound tightly round nuts both at the top and at the bottom of the frame, usually in ten layers; they are easily distinguished in the relief of Vedennius. They were made as taut as possible by means of a windlass. Through the middle of these bundles of gut passed two wooden bars (*ἀγκῶνες*) which played the part of the arms of a cross-bow, but of course derived their motive power from the

[1] The inscription is given by Dessau 2034.



A. *Catapulta* (*εὐθύτονον*) restored by Schramm from Vitruvius's description.



B. *Onager* (*μονάγκων*) restored by Schramm from Ammianus's description.

torsion of the strings and not from any tension of their own. The ends were connected by the 'bowstring' (τοξῖτις), which discharged the arrow.[1] This was placed in a projector running in a groove in the 'pipe' (σῦριγξ) exactly as in the γαστραφέτης above described. The projector (which is shown in side-view on Pl. XXXIX A) was drawn back as far as possible by means of a strong rope worked by a handle or windlass, and fixed in its position by a catch fitting into a series of teeth. At the end of it was a 'hand' (χείρ) or hook, which held the bowstring, and this became stretched as the projector was drawn back, and drew the 'arms' of the catapult away from the frame, increasing the torsion of the strands. The 'hand' was held down by a bolt, which was then shot and the bowstring thus released. The catapult was supported on a pillar with stays, various forms of which are described. The heavier engines also had struts connecting the stock with the stays. As explained above, the principle of the παλίντονον (the Roman *ballista*) was the same, but its construction was more solid since the projectile was heavier.[2] If it was designed for high-angle fire the σῦριγξ must have been inclined accordingly, and many modern reconstructions show the end resting on the ground.

The *onager* as described by Ammianus is represented by Pl. XXXIX B, according to Schramm's reconstruction. Although it is not mentioned by any earlier writer (unless the term *scorpio* may sometimes include it as well as the *catapulta*) we can hardly suppose it to have been a late invention, since the principle is very simple. The strings were stretched, not vertically as in the *catapulta* and *ballista*, but horizontally; the ends are seen in the centre of the carriage in our illustration. The single arm (from which the engine was called μονάγκων) ended in a hook, from which hung a sling containing the projectile. It was drawn back by means of a rope wound round an axle at the back of the carriage, and secured in its horizontal position by a bolt, the release of which caused it to spring back to an almost vertical position, where it was checked by a pad, the missile being meanwhile discharged by the sling. The recoil was violent, and the *onager* (which took its name from the wild ass because of its powerful 'kick') was therefore placed on a turf platform in action.

The three engines already described were the only ones in regular use in the Roman army. Others are described by the Greek writers on mechanics, but it is doubtful whether they were more than ingenious toys. Such were the ἀερότονον of Ctesibius (the teacher of Philon), in which compressed air was used to force the arms into position, and the χαλκότονον of his pupil, with elastic steel plates in place of the strands of gut. Philon was also the inventor of a device for tightening the strings by means of wedges. He describes a machine gun (πολυβόλος) or *mitrailleuse*, invented by

[1] The strands seem to be called *vincla*, the bowstring *libramentum*, in Tac. *Hist.* iii. 23.

[2] The *ballista* usually threw stones, but sometimes also wooden beams.

one Dionysius of Alexandria, which fired a succession of arrows supplied by a magazine or hopper placed above the διώστρα.

The Romans employed guns mounted on a carriage (*carroballistae*), which was drawn into action by a team of horses or mules.[1] Such a gun is shown on the Column of Trajan, from which Fig. 41 A is taken. It will be seen that the projecting parts of the strings are not visible, as on the tombstone of Vedennius, but are protected by caps. The projector contained an arrow, so that the engine may be classed as an εὐθύτονον. The gunners wear the ordinary costume of legionaries; and there is in fact no evidence to show that the Roman artillery was served by a special corps of trained men. The historians and military writers, on the contrary, imply that any legionary was competent to handle the guns.

The use of engines in siege-warfare was chiefly for defensive purposes. The projectiles which they hurled would not have sufficed to make a breach in solidly constructed walls, although

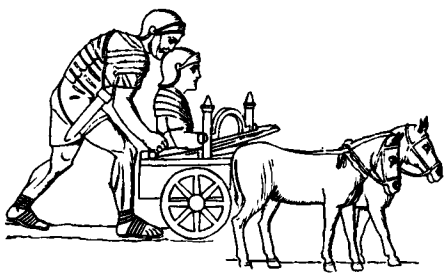


FIG. 41 A.

doubtless an artillery preparation was effective in clearing the battlements of their defenders before an attempt was made to scale them with ladders. The calibre of the *catapulta* was determined by the length of the arrow, which varied from 3 spans (τρισπίθαμος), i.e. 27 inches, to 3 ells (τρίπηχυς), i.e. 4½ feet. The effective range of the largest of these engines would be about 1,000–1,200 feet. The calibre of the *ballista* was fixed by the weight of the projectile estimated in *minae*; this varied in practice from 10 *minae* to 60 (or 1 talent = about 53 lb.). This was the heaviest ordnance in general use: the *ballista* of three-talent calibre, constructed (according to Athenaeus) by Archimedes, and those constructed by the Massaliots during Caesar's siege of their town, which hurled twelve-foot beams, were quite exceptional. The technical writers give a scheme of proportions for the construction of these engines. The *modulus* was the diameter of the opening in the περίτρητα through which the strings passed. In the *catapulta* this was one-ninth of the length of the arrow. For

[1] Vegetius tells us that such artillery was posted in rear of the heavy infantry in action.

the *ballista* a more elaborate formula was used. The weight of the projectile (in drachms) was multiplied by 100, and the cube root of this quantity + one-tenth gave the diameter in dactyls (three-quarters of an inch). It has been said that projectile-throwing engines were not of primary use in siege operations except for defence. For attack their place was taken by others, the object of which was either to make a breach in the enemy's walls or to protect sappers engaged in undermining them. Such engines and devices had been used from early times in Oriental warfare,[1] and had been carried to a high degree of perfection by the Hellenistic Greeks. They are described by the writers mentioned at the beginning of this section, as well as by Aeneas Tacticus, an author of the fourth century B. C.

The principal engine of attack was the battering-ram (*aries*), a huge beam[2] with an iron head, the form of which gave its name to the machine; it is clearly shown on the Column of Trajan and the Arch of Septimius Severus. In its simplest form the ram was carried by a file of soldiers and impelled by the force of their arms; thus on Trajan's Column we see Dacians using it against a Roman fort. The next step was to suspend it by rings from a stout pole and to swing it against the wall by means of ropes. But both methods were superseded in general use by the frame on wheels, in which the ram, suspended from a horizontal beam, was moved up to the walls. The frame was called the 'tortoise' (*testudo*,[3] χελώνη), and had a wooden roof covered with clay or hides as a protection against fire. The more elaborate had several stories, in order to play upon the wall at the most suitable height; on the Arch of Severus we see soldiers mounting to the second story of such an engine. A variety of the ram was the 'borer' (*terebra*) described by Vitruvius, which had a sharp point and was used to make holes in a wall. The *falx muralis*, or 'sickle', attached to the end of a swinging beam, loosened the stones on the top of the wall. Movable towers (*turres*) moving on wheels were used in assaulting fortified towers; the Greeks gave the name ἑλέπολις ('city-taker') to the largest of these, such as those of several stories carrying artillery on their platforms which were used by Demetrius Poliorketes at the siege of Rhodes. Caesar describes the construction of a large tower of this kind by his troops when besieging Massilia in B. C. 49, and Josephus tells us that they were used in the siege of Jerusalem (A. D. 70).

For the protection of troops engaged in sapping and mining the *musculus*, *vinea* and *pluteus* were used. In the account of the siege of Massilia already quoted Caesar describes the *musculus* at length. It was a wooden shed 60 feet long, 4 feet wide, and 5 feet high,

[1] They are represented in Assyrian sculptures, and the invention of the ram is ascribed by ancient writers to the Phoenicians.

[2] We hear of such 60, 80, and 120 feet in length.

[3] To be distinguished from the *testudo* formed by the locked shields of a body of men advancing to the attack on a fortified place; the *scuta* formed a solid roof which no missiles could penetrate.

with a sloping roof covered first with bricks and earth, then with hides, and over these with wet mattresses as a protection against fire. This covered gallery was moved up against the wall on rollers, and the foundations were then sapped with crowbars. The *vinea* differed from the *musculus* in having one of the longer sides open; the *pluteus* was a small screen, usually of wicker-work, for the protection of small bodies of men.

BOOKS, ETC., FOR REFERENCE.

PAULY-WISSOWA, s.v. 'Geschütze (Schneider).
SCHRAMM, *Bemerkungen zu den Rekonstruktionen griechischer und römischer Geschütze* (Jahrbuch der Gesellschaft für lothringische Geschichte und Altertumskunde, 1904, 1906, 1909).
SCHNEIDER, *Geschütze auf antiken Reliefs* (Römische Mitteilungen, XX. 1905, pp. 166 ff.).
SIR R. PAYNE-GALLWEY, *The Projectile-throwing Engines of the Ancients*, 1907.

§ 4. TROPHIES.

It was the custom of the Greeks, when victorious in battle, to set up a τρόπαιον to mark the spot where the rout (τροπή) of the enemy began; a tree trunk was felled, and adorned with armour stripped from the fallen foe. The Macedonian kings did not observe this custom, nor was it the practice of the Romans in early times; the spoils of the enemy were used to decorate public buildings in Rome. In the later Republic, however, they adopted the Greek custom. We hear that Cn. Domitius Ahenobarbus and Q. Fabius Maximus, after defeating the Allobroges in 121 B.C., set up permanent trophies (described as 'towers of white stone', i.e. marble) at the confluence of the Rhone and Isère; Pausanias saw two trophies erected by Sulla on the scene of his defeat of Archelaus, the general of Mithridates in 86 B.C.; and a few years later Pompey, at the close of the Sertorian war in Spain, set up a monument at the crossing of the Pyrenees with an inscription commemorating his reduction of 876 towns or villages. No remains of these trophies exist; but at La Turbie, overlooking Monaco, may be seen the ruins of a fortress, the core of which is formed by the Tropaeum Alpium, a monument set up in 16 B.C. to commemorate the subjugation of the Alpine tribes. The inscription, giving the names of forty-six peoples, is preserved by Pliny the elder, and small fragments of the original have been discovered. The ancient aspect of the monument can be recovered from the descriptions written in the sixteenth century, when it was still in a fair state of preservation. Upon a shallow plinth stood a massive square substructure with two doors and staircases by which the ascent was made to the circular tower, surrounded by a colonnade in two stories, adorned with pilasters (between which, in the lower story, were niches for statues) and crowned with a cupola supporting the trophy proper—described by the mediaeval writers as a 'statue of Augustus', from its resemblance to an

armed figure. In Rome itself we have the so-called 'trophies of Marius', which now adorn the balustrade of the Capitoline piazza; they were brought thither from a monumental fountain on the Esquiline, and probably commemorated Domitian's victories on the Rhine and Danube. The usual type of the *tropaeum* is here amplified by the addition of the figure of a captive at the foot of the tree trunk.

But the most remarkable monument of this kind is the 'Trophy of Trajan' at Adam-Klissi in the Dobrudja, reproduced on Pl. XL after the reconstruction published by Furtwängler,[1] which is more accurate than that given in the work of Benndorf mentioned below. A flight of steps was surmounted by a circular base, the upper portion of which was decorated with a series of panels divided by pilasters and carved in relief with representations of Romans and barbarians on the march or in action, and crowned with a cornice and embattled parapet, the crenellations being adorned with reliefs of barbarian prisoners. The base has a sloping roof surmounted by a hexagonal structure in two stories: on one face of the upper story was the inscription which recorded the erection of the trophy by Trajan, and above was a frieze representing pieces of armour. The trophy proper crowned the edifice, the height of which was equal to the diameter of the base (including the steps). An acute controversy has been waged as to the date of the monument and its reliefs. The fragments of the inscription leave no doubt that it was dedicated by Trajan to Mars Ultor; and the adjacent town was called Tropaeum Trajani. Hard by is a monument erected in memory of 3,000 Roman soldiers who fell on this spot; and it is reasonable to suppose that a disaster took place here under Domitian, which was avenged by Trajan and commemorated by the trophy. Furtwängler, however, maintained that though Trajan restored the monument and gave his name to it, it was originally set up by M. Licinius Crassus[2] at the time of his expedition against the Bastarnae in 29 B. C., but was left without an inscription, since Crassus was acting as the *legatus* of Augustus. The style of the reliefs is very rude, and betrays the hand of the legionary; but there are details (especially in the ornament) which seem to point to the time of Trajan rather than that of Augustus.

BOOKS, ETC., FOR REFERENCE.

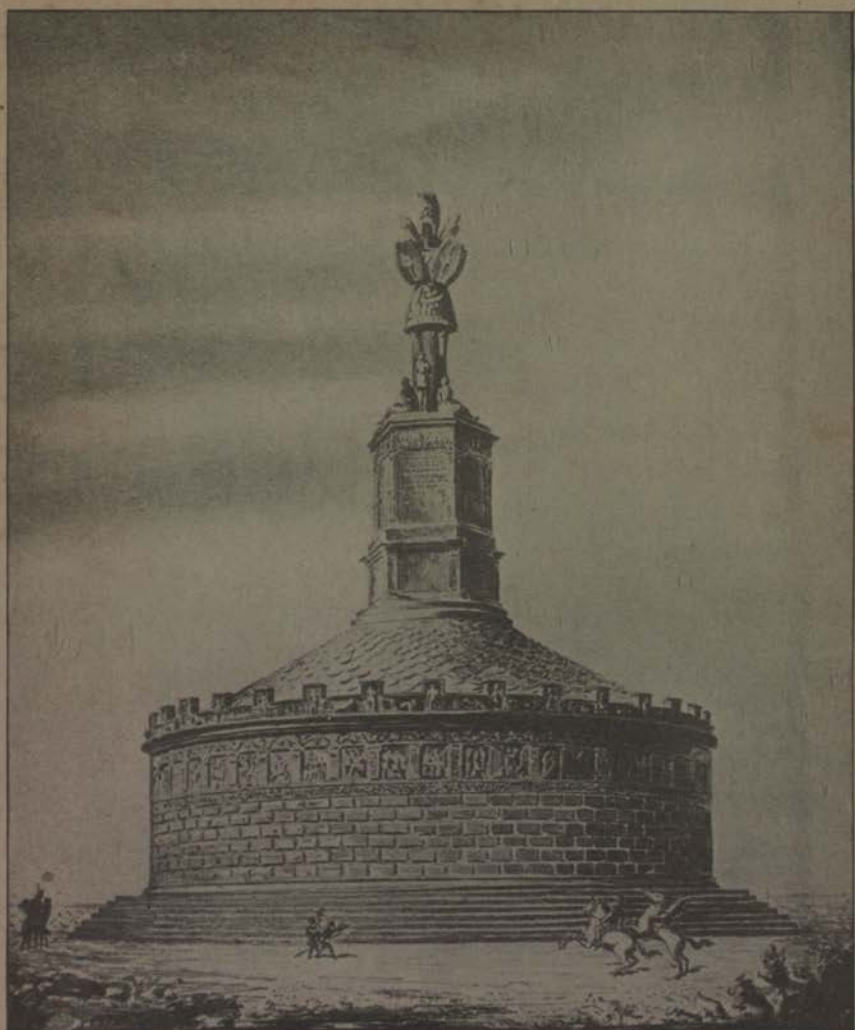
BENNDORF, *Le trophée d'Auguste* (Société nationale des Antiquaires de la France, Centenaire, Recueil de mémoires, pp. 33 ff.), 1904.

BENNDORF-NIEMANN-TOCILESCO, *Das Monument von Adam-Klissi, Tropaeum Traiani*, 1895.

STUDNICZKA, *Tropaeum Traiani* (Abhandlungen der k. Sächs. Gesellschaft der Wissenschaften, 1904).

[1] Abhandlungen der bayrischen Akademie der Wissenschaften, 1903, Pl. I.

[2] Grandson of the triumvir.



Trophy of Adam-Klissi (restored by Furtwängler).

§ 5. Camps.

Nothing in the public life of the Romans bears such eloquent testimony to the orderly and practical spirit which gave them the mastery of the ancient world than their scientific method of encampment. A Roman army on the march never bivouacked without constructing an entrenched camp (*castra*) large enough to contain the whole force, together with beasts and baggage; and the marching kit of the Roman soldier included a number of stakes —sometimes as many as seven—for use in forming the palisade with which the earthen mound (*vallum*) surrounding the camp was strengthened. In protracted campaigns, and in the occupation of conquered territory, permanent camps (*castra stativa*) became necessary; in summer the troops were kept under canvas in *c. aestiva*, but for winter quarters (*c. hiberna*) barracks were built whose remains have been preserved in many parts of the Empire. These we are enabled to interpret by means of the descriptions of ancient writers. On the one hand, we find in the sixth book of Polybius a full account of the planning of a camp designed for a consular army of two legions with its complement of auxiliaries; on the other, we possess in the tract *de munitionibus castrorum*, which passes for a work of the land-surveyor Hyginus (v. *supra*, chap. I, p. 20), but appears to belong to the early third century A. D., a description of the summer camp of an army of three legions with auxiliary contingents planned according to the regulations of the later Empire. These documents, together with some other passages in ancient literature,[1] when read in the light of extant remains, enable us to trace in some measure the history of Roman camp-making.

The planning of camps (*metatio castrorum*) was a department of the land-surveyor's art, of which an account was given in Chap. I, § 2. The *groma* was used in orientation; the divisions of the camp were formed by *kardines* and *decumani*; the quarters of the troops were disposed *per scamna et strigas* (p. 19). In theory the camp was held to face eastwards, and the *decumanus* was accordingly the road connecting the *porta praetoria*—the 'commander's entrance' by which the army issued from the camp—with the *porta decumana* in the rear, while the *kardo* traversed the camp from north to south under the name of the *via principalis*, connecting the *porta principalis sinistra* with the *p. p. dextra*. But it need scarcely be said that in practice the orientation of the camp was determined by military considerations, and the terms of art were used in a purely conventional sense.

The scheme of Polybius (cf. Fig. 42, after Nissen) provides, as was said above, for an army of two legions, each numbering 4,500 men (1,200 *hastati* + 1,200 *principes* + 600 *triarii* + 1,200 *velites* + 300 *equites*), together with the allied contingents (normally 4,200 foot + 600 horse to each legion), a certain number of *auxilia*, i.e. mer-

[1] Especially Josephus, *Bell. Iud.* iii. 5, written about A. D. 75.

cenary troops, and a special corps of allies called *extraordinarii*, numbering 2,100 foot + 600 horse; from these last the bodyguard of the commander was selected. The principle which governs the distribution of these forces is that the *pars postica*, in the land-surveyor's sense of the word (p. 17), is assigned to the head-quarters, the staff and the *extraordinarii*; while the *pars antica*

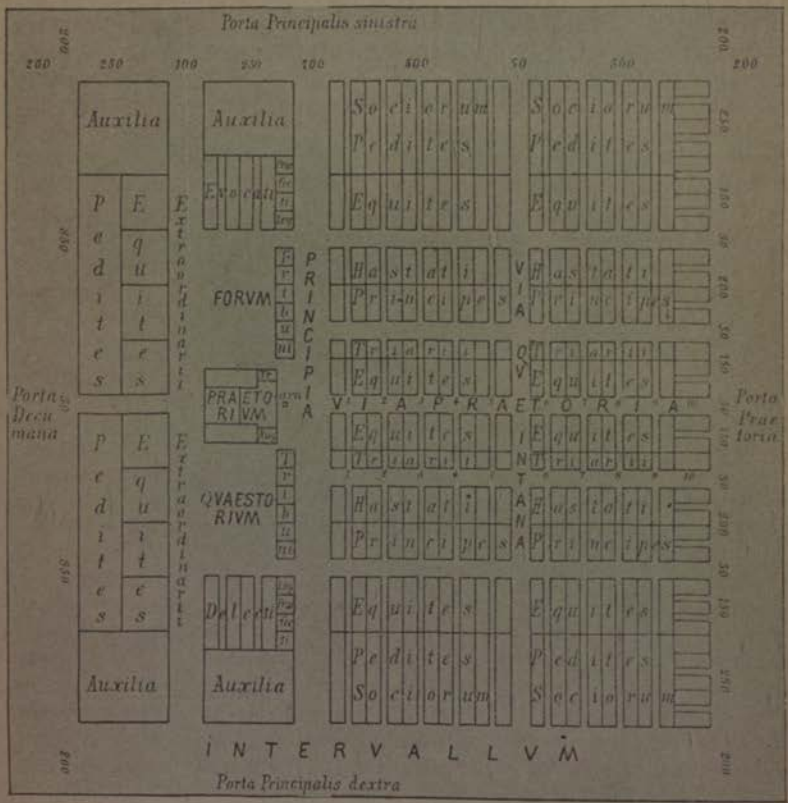


FIG. 42. The camp according to Polybius (from Nissen).

contains the legions in the centre, the allies at the sides of the camp. The *pars postica* stands to the *pars antica* in the proportion of 3 : 2. The system of measurement is decimal and the unit 50 feet = 10 paces = 1 *vorsus*.

The first act of the *metator* was to plant a white flag in the spot which was to be occupied by the commander's tent, which occupied the centre of a square of 200 feet, known as the *praetorium*; in the corners of this were the *tribunal*, from which the general

harangued his troops, and the *auguratorium*, where he took the auspices before marching out to battle. Before the *praetorium* stood an altar; and a line parallel with its front, and 50 feet distant therefrom marked the position of the *principia*, i. e. the quarters of the officers, viz. the twelve tribunes attached to the two legions, the *praefecti* in command of the allied troops, and the *legati* belonging to the general's staff. Along the front of the *principia* ran the *via principalis*, which took its name from them: this was 100 feet wide. In the forepart of the camp a legion, together with its complement (*ala*) of allies, was quartered on either side of the *via praetoria*, which led from the *praetorium* to the front gate (*porta praetoria*); this road, as well as the *via quintana*, which intersected it at right angles and divided the quarters of the legion in half, was 50 feet broad. The tents were disposed in *strigae*, six on either side of the *via praetoria*, each 500 feet in length, divided from each other by roads 50 feet broad. The *striga* adjoining the *via praetoria* was occupied by the legionary cavalry, whose quarters were 100 feet deep, and the *triarii*, to whom 50 feet were allowed. In the next *striga* were the *hastati* and *principes*, who divided the breadth of 200 feet equally: finally came the *striga* assigned to the allies, divided between foot and horse (the latter inside) in the proportion of 250 : 150 feet.

So far the description of Polybius is quite clear: the breadth of the camp, it will be observed, works out at 1,750 feet, and as an open space of 200 feet (*intervallum*) was left between the tents and the earthworks, the total comes to 2,150 feet. The arrangements of the *pars postica* are not so clearly described. Here the space was divided *per scamna*, not *per strigas*. The *scamnum* assigned to the officers was 50 feet in depth; in breadth it was no doubt equal to the frontage of the *strigae*, so that the tribunes were lodged opposite to the legionaries and the *praefecti* (and probably also the *legati*) opposite to the *socii* whom they commanded. Behind this *scamnum*, in the spaces 200 feet deep to the right and left of the *praetorium*, were the *forum*, where the market of the camp was held and booty put up to auction, and on the other side the *quaestorium*, where the *quaestor*, or paymaster, and other departmental officials transacted their business. On the extreme right and left were encamped the bodyguard. Behind this division of the camp ran a road 100 feet broad, and finally a *scamnum* 250 feet deep, cut in two by the road (50 feet wide) leading to the *porta decumana*. Here were quartered the *extraordinarii*, the infantry, as usual, being on the outside, while the barbarian *auxilia* were posted at the ends of the *scamnum*. It will be seen that the camp thus formed a perfect square.

The description of Polybius leaves us without precise information on various points of detail, notably as to the position assigned to the *velites*, of whom we learn that they 'manned the outer front of the camp': this has been held to mean that they bivouacked outside the camp; but it may be that part of them at

least served as pickets on the *intervallum*. If they were drawn in equal strength from legionaries and *socii*, they must have numbered 4,800. Having thus described the camp, Polybius adds that when two consular armies, each of two legions, were encamped within a rampart, the *extraordinarii* of each army were posted side by side in the centre, so that the two armies were back to back; but when they encamped separately, 'the forum, quaestorium, and praetorium were placed between the two legions (στρατοπέδων)'. Now there are several pasages in Livy[1]—all of which refer to wars earlier than the time when Polybius wrote his history—which imply the disposition here indicated; it may be represented by the annexed figure (Fig. 43). We hear of the *porta decumana*, evidently the same as the *porta quaestoria* of other passages, by which the enemy enter and capture the *quaestorium*; again, a consul places *cohortes extraordinariae* at the *porta praetoria*, legions at the *portae principales*, and an *ala sociorum* at the *porta quaestoria*. Moreover, in the order of march the *extraordinarii* formed the vanguard, and it is reasonable to suppose that the order of march was followed as nearly as possible in the order of encampment. Lastly, the camps of the Empire, as we shall see, are based on the same scheme; and it seems best to conclude that the camp traced in detail by Polybius is really a modification of the normal arrangement adopted when two armies operated in conjunction.

We find the same disposition of parts in the description of the so-called Hyginus, to which we must now turn (cf. Fig. 44). The date of the work is uncertain, but as the *equites legionis* have ceased to exist, it can scarcely be earlier than the third century A. D. The expeditionary force which Hyginus has in view consists of three legions and a number of auxiliary regiments, both regular and irregular (included under the term *supplementa*). The presence of a camel-corps seems to show that the scene of the expedition is laid in the East. The *groma* marked the centre of the *via principalis*, which, together with the *via quintana*, divided the camp into three main portions. Between the *porta praetoria* and the *via principalis* lay the *praetentura*; on the other side of the *via principalis* was the *praetorium*, from which the central part of the camp took the name of *latera praetorii*; beyond the *via quintana* was the *retentura*. Hyginus lays it down as a rule that the camp is, as far as possible, to be divided into three *equal* parts; but the measurements which he gives allow somewhat less depth to the *retentura* than to the other sections.

The legionary force was quartered in a series of *strigae* and *scamna* running round the whole encampment, and separated from it by a road called the *via sagularis*[2]. No legionaries were found inside of this line except the first cohorts of the First and Second

[1] Liv. x. 32. 9; xxxiv. 46. 8 f.; xl. 27. 1-7; xli. 2. 11.

[2] If the reading of the MSS. is right, *sagularis* must be connected with *sagum* (p. 330); *angularis* has been suggested as a correction.

Legions, which were posted on the outside of the *latera praetorii*, and the first four cohorts of the Third Legion, which were in the *praetentura*. In this section we find two *scamna* immediately adjoining the *via principalis* assigned to the *legati* and *tribuni*; behind them come four large cavalry regiments (*alae miliariae*), and then some light horse (Moorish and Pannonian) and marines detached for service from the fleets at Misenum and Ravenna. With the four cohorts mentioned above, this exhausts the list of troops quartered in the *praetentura*, where we also find the armoury (*fabrica*) and hospitals (*valetudinarium* and *veterinarium*). The

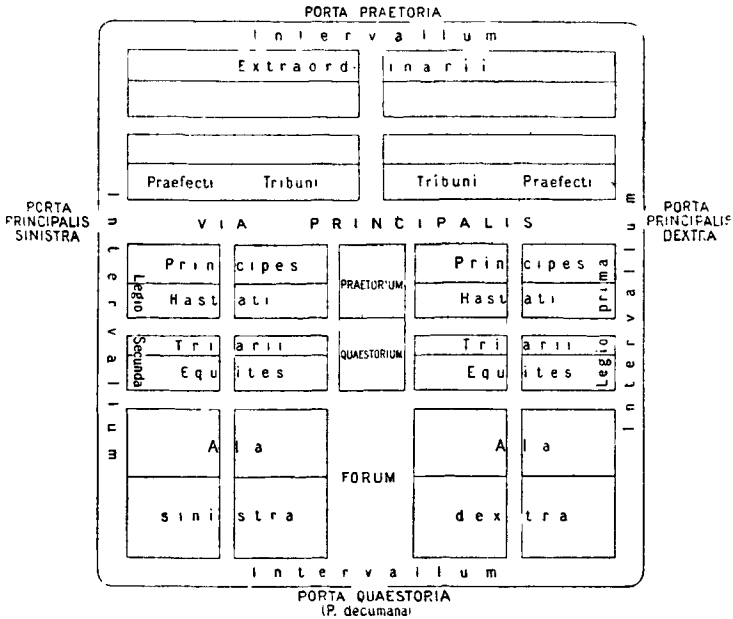


FIG. 43. The camp of the later Republic.

divisions are *per scamna*, not *per strigas*, as in the other sections. In the *scamnum* of the legati, on the *via principalis*, room was found for the *scholae*, or club-rooms, of the three legions.

The *praetorium* was oblong in shape, and extended from the *via principalis* to the *via quintana*. On either side were the quarters of the commander's staff, next to which came the guards (*cohortes praetoriae*) with their complement of mounted men (*equites praetoriani* and *e. singulares*). The remaining space was filled by cavalry regiments (*alae quingenariae*) and the privileged cohorts mentioned above. Finally we come to the *retentura*, the centre of which was filled in its whole length by the *quaestorium*; this, as Hyginus is careful to explain, was no longer occupied by the *quaestor* (who had

long ceased to accompany the magistrate on active service), but served for prisoners, hostages, and booty. To right and left of it were quartered the auxiliary cohorts and the various irregular corps of barbarian origin—Cantabrians, Britons, Palmyrenes, Gaetulians, and Dacians.

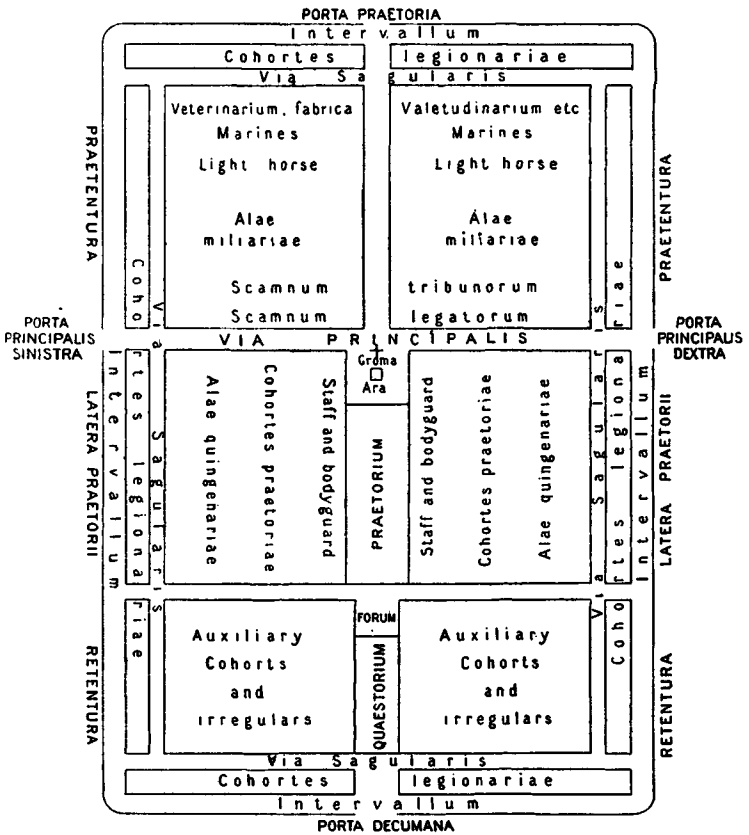


FIG. 44. The camp described by Hyginus.

Beside the changes noted above, and those which will be obvious from the foregoing description, it is to be observed that the measurements given by Hyginus are based on a duodecimal system. The length of the *praetorium*, for example, is fixed at 720 feet, and that of the *quaestorium* at 480. Again, in calculating the *pedatura*, or space measured in feet allotted to each contingent, the unit is the *striga* of 60 feet in breadth and 120 feet in length, which was assigned to the legionary maniple of two centuries.[1]

[1] The scheme of the *striga* is shown on p. 235, Fig. 46.

Moreover, there is a notable contraction in the space allotted to each soldier. Polybius allows 10,000 square feet for the maniple of 120 men, Hyginus 7,200 square feet for the maniple of 160; and Polybius assigns to the *turma* of 30 horsemen a space equal to the maniple, while in Hyginus's time the *striga* has to accommodate two *turmae*, each of 40 men.

The legionary camps of the Empire are becoming known to us with ever-increasing distinctness through the excavations of the past twenty-five years. The most important of these have taken place (*a*) at Carnuntum (Petronell on the Danube, in Lower Austria), a post garrisoned at least as early as the reign of Claudius by the *Legio XV Apollinaris*, which, as is proved by a fragmentary inscription,[1] built a permanent camp there in A. D. 73, after its return from the Eastern frontier; (*b*) at Lambaesis (Lambèse) in Numidia, which from the reign of Trajan onwards was the head-quarters of the *Legio III Augusta*—the permanent camp seems to have been built under Hadrian; (*c*) at Novaesium (Neuss) on the Lower Rhine, which, as the results of the excavation have been fully published, will here be described as typical.

Of the four legions which constituted the Lower German army corps, two were originally stationed by Augustus at Cologne; these were the First and the Twentieth (*Valeria Victrix*). Under Tiberius, as it would seem, this force was split up; the First Legion was transferred to Bonna (Bonn), the Twentieth went north to Novaesium, a site whence it could not only keep watch against the German tribes on the right bank of the Rhine, but also maintain communications with the authorities in Belgic Gaul by the valley of the Erft, which here falls into the Rhine. In A. D. 43 the Twentieth Legion went to Britain as part of Claudius's expeditionary force, and there remained; its place was taken by the *Legio XVI Gallica*, hitherto quartered at Mainz. It was apparently this legion which built the first stone camp on the site; its arrangements prove that it was designed to shelter not merely the legion itself, but also two auxiliary cohorts and a cavalry regiment (*ala*). In the revolt of Civilis (A. D. 69–70) the soldiers of the Sixteenth Legion mutinied once and again, murdering first Hordeonius Flaccus, the aged and incapable Legatus of Lower Germany, and then Dillius Vocula, the gallant commander of the Twenty-second Legion; the camp then fell into the hands of the rebels and was partly destroyed, but was rebuilt in A. D. 70 by Petillius Cerialis after the suppression of the revolt. The Sixteenth Legion was disbanded by Vespasian, and its place was taken by the *Legio VI Victrix*, which had come from Spain. This legion formed the garrison of Novaesium until the early years of the second century A. D. It appears to have taken part in the first Dacian War of Trajan (A. D. 101–2), and if it returned to Novaesium its stay there was of brief duration, for in A. D. 105 it was transferred to Castra Vetera (Xanten) to replace the Tenth Legion, which was summoned by Trajan to take

[1] *C. I. L.* iii. 11194-6.

part in the second Dacian War. Henceforward the camp was only occupied by detachments, and fell into disrepair; about A. D. 250, under Gallienus, a small fort, capable of holding an *ala*, was constructed in the centre of the deserted space, but was only held for a short time. In the last quarter of the third century the civil settlement from which the modern Neuss is descended, which had sprung up at some distance from the old camp, was surrounded

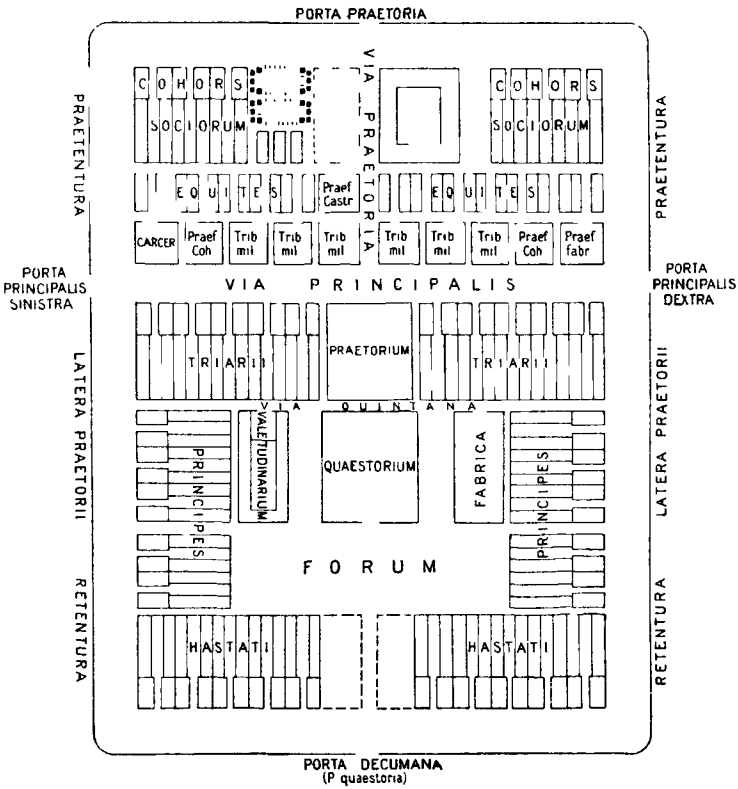


FIG. 45. The camp at Novaesium before A. D. 70, according to Oxé.

with walls and became the centre of defence in the district; we read that the Emperor Julian repaired its fortifications in A. D. 359–60.

The remains found at Novaesium belong in part to the camp built under Claudius, in part to the restoration of A. D. 70, and it was no easy task to determine the arrangements of the earlier structure. Nevertheless, it has been found possible to trace a fairly trustworthy plan of the camp as it existed before the revolt of the Rhine, taking the descriptions of Polybius and Hyginus as

a guide. Fig. 45 is based on the results of Nissen's researches, published in the *Bonner Jahrbücher* for 1904, but is somewhat simplified and incorporates the suggestions of Oxé as to the distribution of the troops.

The camp encloses a space of 24·70 ha., a little less than the sister-camp of Bonn, which covers about 25 ha. This may be taken to be the normal size of the camps built under the Julio-Claudian dynasty, when legions and *auxilia* lived within the same walls. The Flavian camp of Carnuntum was only about three-fifths as large; this is because Vespasian, taught by the experience of Civilis's revolt, assigned separate stations to the legionary and allied troops. The camp of Lambaesis, which likewise contained a legion only, is much larger, about 21 ha.; but the growing luxury of the service accounts for this. Finally, the new regulations of Septimius Severus, which permitted the legionary to live with his wife and children, put an end to camp life and with it to the old Roman discipline; hence the area of the camp which he caused to be built at Albano for the second Parthian Legion—the first to be permanently quartered in Italy—is smaller even than that of Carnuntum in area.

Whilst the camp at Bonn was square, that of Novaesium, in accordance with the prescriptions of the later authorities, was of rectangular outline. Taking the outer edge of the ditch as the line of measurement, its sides are respectively about 2,000 and 1,540 Roman feet in length; the proportion is nearly that of 3 : 4 instead of the 2 : 3 prescribed by Hyginus. Within the area thus marked out we find first a ditch which was originally 40 feet in width, then a solid wall 4 to 5 feet thick, and within this an embankment of earth (*vallum*) which in the original camp was 10 feet wide, but after the restoration of A. D. 70 was extended to a breadth of 30 feet, and this was gradually increased to 40 feet. The total space between the wall and the camp-buildings—the *intervallum* of Roman writers—was 100 feet, and of this 20 feet was occupied by a road—the *via sagularis* or *angularis* of Hyginus—running along the buildings, so that the free space surrounding the camp was reduced to 40 feet by the gradual extension of the *vallum*.

The wall was pierced by four gates; the *porta praetoria*, which faced the Rhine, was 100 feet wide, the others somewhat narrower. The *via principalis*, 125 feet wide, divides the camp into two unequal portions, roughly in the proportion of 3 : 5. The smaller of these is the *praetentura* of Hyginus, and is divided into two halves by the *via praetoria* which leads directly to the *praetorium*. The barracks of the legions and *auxilia* are clearly traceable, and correspond closely enough with the description of Hyginus, which, it is to be remembered, applies to the camp of an army on the march. He tells us that to each *manipulus*, formed by two *centuriae* of 80 men, a *striga* of 120 × 60 feet was assigned. In the centre was an open lane (*via*) 12 feet broad, and on either side were ranged the tents of the *centuria*. Each of these was 10 feet

square, and gave shelter to a *contubernium* of eight men. They were separated by an interval of 2 feet (*incrementum tensurae*), and as a certain proportion of the *centuria* was always on guard during the night, only eight tents were set up for the privates beside one for the centurion. Behind the tents a space 5 feet wide was reserved for arms and accoutrements, and behind this again 9 feet were set apart for the sumpter beasts (*iumenta*): thus the quarters assigned to the *manipulus*—the *striga*, divided into two *hemistrigia* for the *centuriae*—may be represented by Fig. 46 (*b*); and will be seen at once that it corresponds closely enough with the typical *striga* at Novaesium represented by Fig. 46 (*a*).

In a permanent camp more space was naturally allowed; hence we find that the *strigae* at Novaesium measure on the average

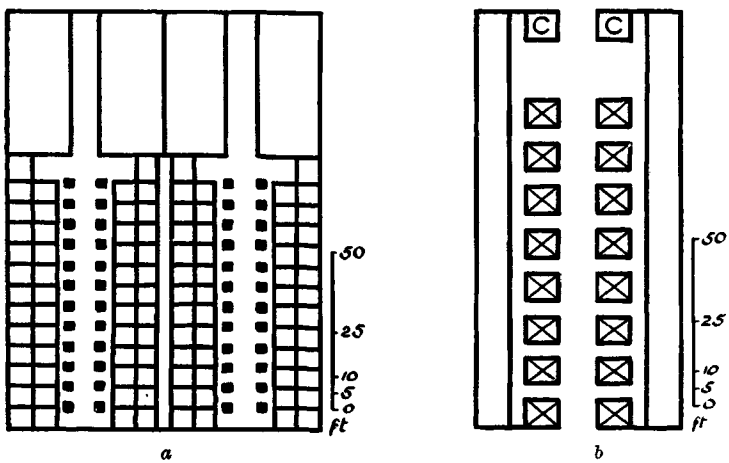


FIG. 46. (*a*) Scheme of double *striga* at Novaesium. (*b*) Scheme of *striga* according to Hyginus. (C denotes the centurion's tent.)

100 × 250 feet. At one end of the *striga* we find a residence occupying one-third of its length, which was clearly intended for the centurion and his assistants, the *optio*, *tesserarius*, and *signifer*. The room next to this was probably used by the sentries, and the remainder of the space was occupied by the *contubernia*. This part of the *striga* was diminished in breadth by 6 feet in order that an open space for roof drainage might be left between the *strigae*, which were built back to back. The central roadway accounted for one-sixth of the 100 feet of frontage; it was flanked by open sheds whose position is marked by lines of posts which, we may suppose, supported a pent-house roof; under these sheds the beasts of burden were doubtless tethered. The *contubernium* itself had two rooms, of which the outer, where the arms were kept, was $8\frac{1}{3}$ feet, and the inner, where the soldiers slept, was 15 feet deep; the breadth of each *contubernium* was 12 feet. The remaining space

is accounted for by the walls, which were somewhat less than 2 feet in thickness. As the restored plan, Fig. 45, shows,[1] such barracks were originally constructed both on the north front and on all sides of the space south of the *via principalis*, corresponding with the *latera praetorii* and *retentura* of Hyginus, except for the space occupied by the *praetorium*.[1] These latter by themselves furnished sufficient accommodation for the legion. The distribution of the tactical units is, however, a matter of conjecture. Nissen arranges the ten cohorts as follows: the first and second in the place of honour on either side of the *praetorium*, the third to the sixth on the eastern and western sides, and the remaining four on the south front. Oxé (whose arrangement is followed in Fig. 45) thinks that the order of the maniples occupying the several *strigae* corresponded with the grade of seniority of their centurions—the *hastati* being on the south front, the *principes* on the two sides, and the *triarii* flanking the *praetorium*. If there was a sudden call to arms, the *triplex acies* was thus naturally formed as the troops left the camp without complicated evolutions. The infantry quarters on the north front must have been occupied by auxiliary troops, probably two *cohortes miliariae* of 1,000 men each.

The quarters of the cavalry are no less easy to recognize. To begin with, immediately to the south of the quarters assigned to the auxiliary cohorts we find a row of buildings whose destination is clearly indicated by the finds of harness, &c., made therein. Here the breadth of the *striga* is from 80 to 90 feet; the roadway is 18 feet broad, and the *contubernia*, like those of the infantry, have an outer and inner chamber, 14 and 16 feet deep; the former of these must be the stall. The length of the *striga* is about 116 feet, and is divided into nine *contubernia* which (allowing for the thickness of the walls) are rather less than 12 feet broad. Since the number of *strigae* originally allowed, no less than the nature of the cavalry force to be accommodated, is a matter of doubt, we cannot be sure how many troopers found a place in each *contubernium*. It is held by Nissen that an *ala quingenaria* numbering 480 horsemen was quartered in this part of the camp; but we have also to account for the mounted troops attached to the legion, consisting in a force of 120 horsemen—the *equites legionis*—in four squadrons (*turmae*).[2] As this force had ceased to exist in the time of Hyginus, his description gives no clue to the place which they occupied; but in Polybius's camp, as we saw, the legionary cavalry had their quarters in a central position; and Nissen believes that at Novaesium two squadrons found a place in two *strigae* on either side of the *praetorium*. Later alterations have, however, made it impossible to determine this question.

[1] This plan is in parts conjectural, since great changes were made in the camp-buildings after A. D. 70. Doubtful points are noted in the text.

[2] The only inscription found at Novaesium which mentions the Sixteenth Legion (see above) is that on the tombstone of one of these *equites*.

Immediately to the north of the *via principalis* were the *principia*. What we here find is a row of detached buildings which were in great part destroyed when the third-century fort mentioned above was built. It is clear, however, that there were five such buildings to the west of the *via praetoria*, and, since the original camp was built on strictly symmetrical lines, we may assume that there were once a like number to the east.[1] The westernmost building is quite different in plan from the others, and was certainly a prison (*carcer*); it contained fifty-eight cells measuring 4 feet by something less than 6. The others, whose measurements average roughly 125 feet square, conform (as is shown by the best-preserved example, next to the *carcer*) to the type of the Roman dwelling-house. They were without doubt the residences of the officers, and if there were originally nine such available, we may assign them to the six tribunes of the legion, the praefects of the two auxiliary cohorts, and the praefect of the *ala*.

Finally, we come to the group of buildings which occupies the centre of the camp. We saw that in the scheme of Hyginus the central position is filled by the *praetorium*, or head-quarters building; behind this, and separated from it by the *via quintana*, was the *quaestorium*. Both these buildings are easily identified at Novaesium, although their original outlines are obscured by reconstruction. The *praetorium* in its original shape was 250 feet square; in its centre was a courtyard 150 feet square, surrounded by a roofed passage, upon which opened the living-rooms and offices, about thirty in number. It was separated by a road 25 feet wide from the *quaestorium*, a building measuring 250 × 300 feet, whose original plan can no longer be traced owing to changes presently to be described. On either side of the *quaestorium* were buildings 300 feet in length, symmetrically disposed. There can be no doubt that that which lay to the west was the camp-hospital, for several surgical instruments were found in its remains. It was entered from the north, and in its central portion was planned on the lines of a dwelling-house. This structure was separated by a passage 20 feet wide from an outer rectangle consisting in a number of small suites of rooms suitable for the isolation of patients undergoing medical treatment. The corresponding building to the east of the *quaestorium*, which contains some remains of wall-painting in fresco, but was almost entirely destroyed when the third-century fort was built, is hard to identify. Nissen conjectures that the armoury, workshops, &c. (*fabrica*), are to be placed here; in that case the frescoed rooms will belong to the quarters of the *praefectus fabrum*; but, as we shall see, the *fabrica* seems to have been elsewhere, and it seems possible that the *praefectus castrorum* had his residence in this building. Behind the *quaestorium* we find, to the east of the *via decumana*, a space

[1] A *schola* (cf. p. 242) took the place of the two easternmost houses after A. D. 70.

in which few traces of buildings remain, measuring 200 × 350'. This must be the *forum*; and in the corresponding position to the west of the road we find workshops, clearly belonging to the *fabrica*.

Such in its main outlines was the camp of Novaesium under the Julio-Claudian emperors. It is clear that it resembles the camp of Polybius—when allowance has been made for the change in the position of the *quaestorium* and in the proportions of the two sections of the camp—far more closely than that of Hyginus. The measurements are on the same decimal system. The position assigned to the auxiliaries on the north front corresponds with that of the *socii extraordinarii* under the Republic. The flanks of the legion, it is true, are not covered by allied troops; but it is to be remembered that the legion of the Empire, with its 6,000 combatants, was practically equivalent, not to the legion of the Republic —3,000 heavy-armed + 1,200 light-armed troops—but to that unit with its complement of allies. Certain changes are due to the fact that we are dealing with the permanent cantonments of a standing army; the hospital and workshops, for example, are obvious additions. The spaces allotted to the soldiers' quarters, too, are greater than those given by Polybius; e. g. the maniple has 25,000 square feet instead of 10,000. But it should be borne in mind that one-third of this space is set apart for the centurion and non-commissioned officers—a visible token of the hierarchical system which Augustus introduced into the army as elsewhere.

In the period following the revolt of the Rhine, when the garrison of Novaesium was reduced to the *Legio VI Victrix* alone, considerable changes were made (cf. Fig. 47); their tendency was to provide the camp with more elaborate buildings, both for headquarters and for the associations whose growth was fostered by the new régime. The *praetorium* and *quaestorium* were thrown into one, and a palatial residence was built for the commanding officer, with a garden and peristyle; to the west of the *praetorium* the treasury of the legion and the sanctuary of the *signa*, which we must suppose to have been in the *praetorium* itself before A. D. 70, were housed in a spacious building which took the place of the *strigae*. At the eastern end of the *principia* [1] we find a colonnaded hall, which can hardly be anything but a *schola*. In the Flavian period its chief use may have been for the purposes of military instruction, for we are still far from the days when each grade of the service was permitted to build a club-room under this name, as in the later camp at Lambaesis. Even at Novaesium it is possible that some of the other buildings of uncertain use belonging to the later period were *scholae*. The region adjoining the *porta praetoria* was occupied by *horrea* or magazines. It would

[1] The auxiliary force having been reduced, there were fewer officers quartered in the camp. Nevertheless, a fresh dwelling-house was erected behind the *principia* on the site of some cavalry barracks. This may have been for the *praefectus castrorum*.

seem that those to the west of the gate were hurriedly built during the revolt of Civilis, and burnt by the rebels; to the east of the gate is a large magazine with double flooring which is shown by tile-stamps to have been the handiwork of the Sixth Legion. It

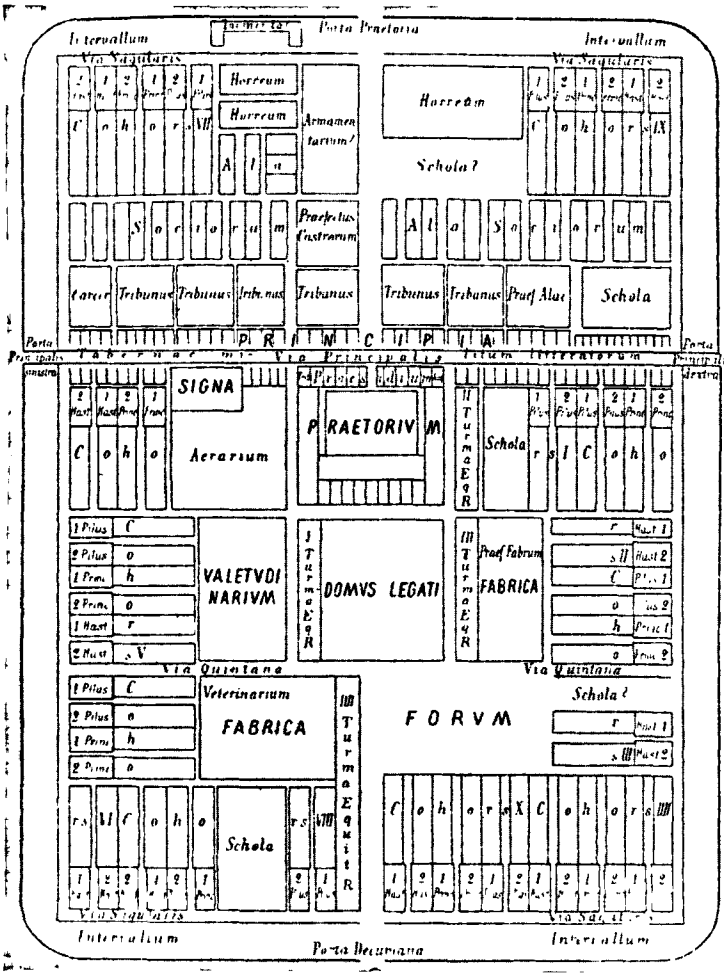


FIG. 47. The camp at Novaesium after A. D. 70 (from Nissen).

should not be forgotten that to each legion was assigned a *territorium* of greater or less extent, which furnished fodder, pasture, and firewood; amongst the civil duties of the legion was the management of this property—the *prata legionis* of which we read in inscriptions.

Finally, the luxury of the declining days of Rome's military power has left its trace in the suite of *thermae* erected on the ruins of the deserted camp of the legions by the *exercitus Germaniae inferioris*, as the tile-stamps call it. This no doubt was the force which built the third-century fort.

In order to complete the picture of a permanent camp under the Empire, we must borrow some features from that of Lambaesis in Numidia, built under Hadrian as the head-quarters of the *Legio III Augusta*, which formed the garrison of North Africa throughout the Imperial period. The remains of a second and smaller camp about 2 km. to the west, which was temporarily occupied by the legion, are chiefly interesting by reason of the fact that on a monument in the centre of the encampment was inscribed the text of the speech delivered by Hadrian when he inspected the *Legio III Augusta* and other troops on July 1, A.D. 128. The smaller camp was doubtless used as a parade-ground on such occasions.

The *praetentura* of the larger camp, which has been completely excavated, presents a picture with which we are already familiar. Bordering on the *via principalis* we have a row of houses for the use, probably, of the *legatus legionis* (for whom no quarters seem to have been available in the *praetorium*) and the staff officers. Behind this *scamnum*, and separated from it by a narrow street parallel with the *via principalis*, are the quarters of the legionary cohorts, disposed on much the same plan as those of Novaesium, with a double portico in the centre and *contubernia* consisting of an inner and outer chamber (the latter quite small) on either side. Inscriptions have been found with dedications 'to the *genius* of the century', which belonged to these barracks; one of them is dated in the joint reign of Septimius Severus and Caracalla, and this is at least as early as any of those which have come to light. The fact is important, because it has been held that when Severus (as Herodian tells us) permitted the soldiers 'to live with their wives', the camp became a mere parade-ground and head-quarters building, and the quarters of the troops were replaced by club-rooms, &c. We now see that this was not so—or at least that a substantial number of troops continued to live in the camp itself. Beside the barrack buildings, the *praetentura* also contained stables and *horrea* which have no peculiar features.

The plan of the *praetorium*, or head-quarters building, can be traced with certainty; and the walls of its imposing entrance hall, shown on Pl. XLI,[1] are still standing. This hall is built over the *via principalis* at its intersection with the *via praetoria*, from which it is entered by a fine archway of three bays flanked by columns, bearing an inscription in honour of Septimius Severus; in fact, the scheme of the building is borrowed from that of the triumphal arch with four entrances, such as that of Theveste

[1] This building is popularly called the *praetorium*; its true destination was not discovered in the earlier excavations.

Entrance court of the *praetorium* at Lambaesis.

(Pl. XX A). It served as the entrance to a large rectangular paved court, measuring 65 by 37·40 metres, and bordered on three sides by a portico of Doric columns upon which opened a series of small rooms.[1] These formed the armoury and arsenal of the legions. Inscriptions with the words *arma antesignana* and *postsignana* have been found in some, and sling-bullets and stone projectiles in others. At each corner of the court stood a drinking-fountain; and it doubtless also contained honorary monuments; the remains of an *Ara disciplinae* which now stand in it may, however, have been brought from elsewhere. The side facing the entrance hall is bounded by a wall, 1·75 m. high, supporting a platform approached by two flights of steps; and at the back of this is a second and shallower court, about which are grouped a number of halls and other buildings. A Corinthian portico traverses the court, and in front of each of its columns is a pedestal upon which an Imperial statue once stood; the earliest was set up to Hadrian in A.D. 129. In the centre of the side which faces the entrance is an apsidal hall, beneath which are cellars; this was the *sacellum*, in which the *signa* of the legion were kept and worshipped, and the cellars contained the treasure, including the savings of the soldiers, which, as we are told by ancient authors, were deposited under the protection of the *signa*. We shall find in the frontier forts of the Empire (p. 254) precisely the same arrangement. The rooms to the right and left of this sanctuary are shown by the inscriptions found therein to have been the *scholae* or club-rooms[2] of various corps or grades: thus on the left the *equites legionis* had their *schola*, and beyond them the non-commissioned officers, or *principales*, attached to the legionary tribunes; while various groups of *principales* attached to the staff had their club-rooms on the right of the central *sacellum*. The *tabularium*, or office, of the legion can also be located in one of the side-rooms; and a number of fragmentary inscriptions show that practically every grade of *principales* was permitted to have its *schola* from the time of Septimius Severus, whose constant aim was to increase the attractiveness of the service.

It must be observed that although no permanent legionary camps of the Republican period survive, the recent excavations at Numantia show that during the famous siege of that town by Scipio Aemilianus (134–133 B.C.) the principal points in the lines of circumvallation were occupied by *castella* built on the model of the *castra hiberna*. In one of these[3] (which measures 130 × 140 metres) the *strigae* and *scamna* are in part well-preserved, and conform to the scheme above described. We have, for example, *strigae* 22½

[1] There may have been an upper story, but this is not quite certain.

[2] A *schola*, or 'lounge', is often found in public places, such as the *fora* of Roman towns, as at Simitthus (Chemtou) in North Africa; they are usually semicircular in form, with a bench running round the wall. From this the apsidal termination of some of the *scholae* at Lambaesis is derived.

[3] See the description in *Jahrbuch des k. deutschen arch. Instituts*, 1907, Anzeiger, pp. 472 ff.

metres broad, divided into three strips of equal breadth—the central lane and two rows each of six *contubernia*, which had an outer and inner room, each three metres square. Allowing ten men to each *contubernium*, the *striga* would give room for a *manipulus* of $2 \times 60 = 120$ men; and the camp was probably designed for one cohort and one *turma* of horse.

BOOKS, ETC., FOR REFERENCE.

NISSEN, *Novaesium* (Bonner Jahrbücher, cxi, cxii), 1904 (cf. Oxé, Bonner Jahrbücher, 1909, pp. 75 ff.).

CAGNAT, *L'armée romaine d'Afrique*, pp. 526 ff. (on Lambaesis) (cf. id., *Les deux camps de Lambèse*, Mémoires de l'Académie des Inscriptions, xxxviii. pp. 219 ff.).

Der römische Limes in Oesterreich, in progress (on Carnuntum).

§ 6. FRONTIER DEFENCES.

The conception of a scientific frontier was foreign to the government of the Roman Republic. From the force of circumstances rather than from settled policy the territory ruled by Rome and the sphere of her direct or indirect influence was constantly extended. In the closing half-century of senatorial rule vast regions were added to the Empire by the conquests of ambitious generals; but of these Pompey at least, by his refusal to treat the Euphrates as the limit of Roman dominion, at once showed that he had no definite idea of a frontier in the East and bequeathed to his successors a problem of enormous difficulty. Caesar, if the story told by Plutarch be true, proposed to return from his projected Parthian expedition by the shores of the Caspian, the Black Sea, and the Baltic, and to 'make the circle of Empire conterminous with ocean'; but this fantastic tale is scarcely worthy of credence.

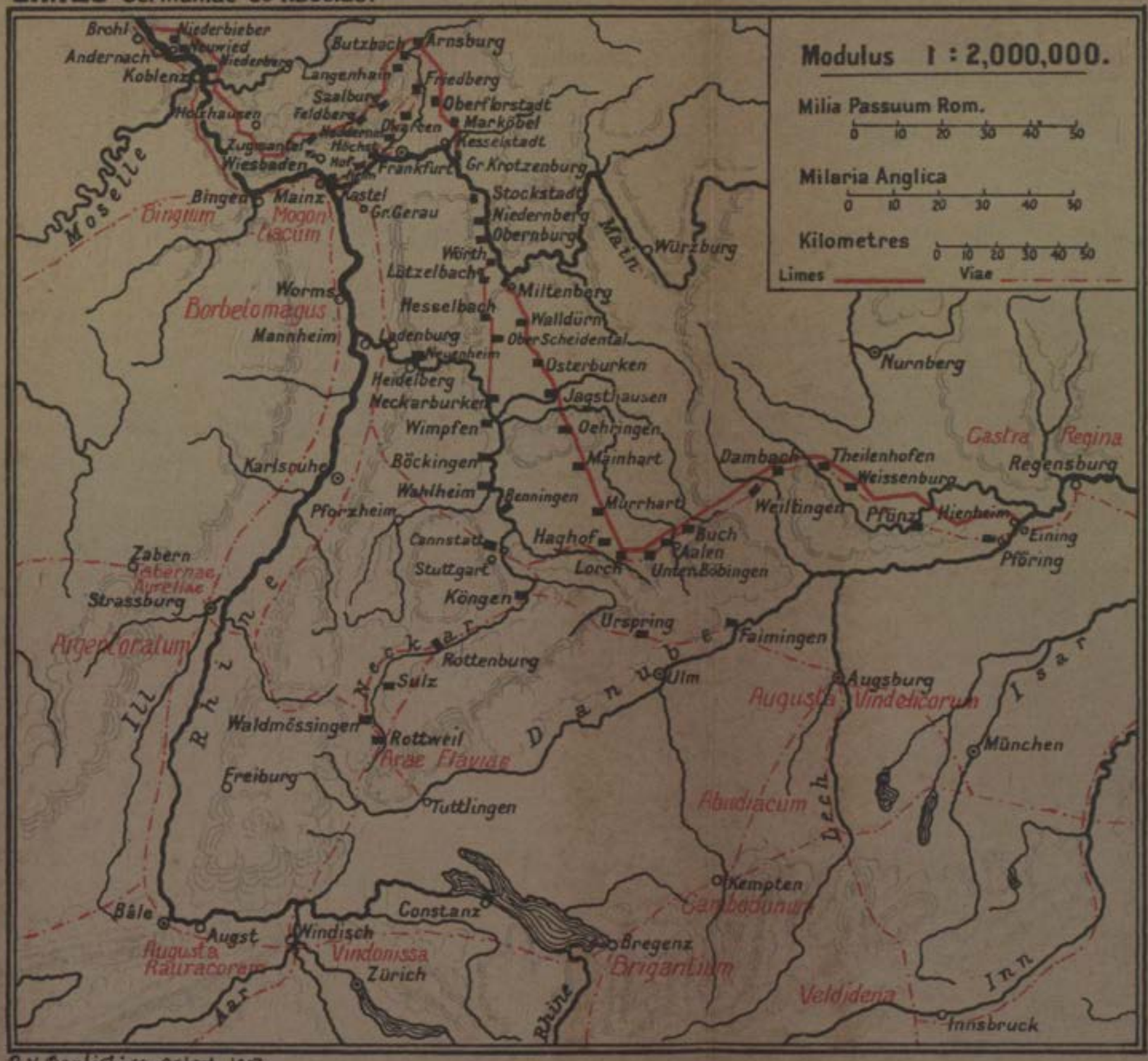
With the advent of Augustus to power all was changed. For the first time it was recognized that a consistent frontier *policy* must be framed and followed; and the principle which Augustus bequeathed to his successor—*coercendum intra terminos imperium*—sounded the death-knell of indefinite expansion. Tacitus tells us (*Ann.* i. 9) that amongst his achievements men counted that of confining the Empire within the limits of 'sea, ocean, and distant rivers': if we add to this deserts, we shall not be far from the truth, for in his final conception the Rhine and Danube were regarded as forming the northern frontier, though the line of the Danube cannot be said to have been held in a military sense, and on the other hand the right bank of the Rhine remained throughout a great part of its length in Roman occupation even when the project of extending Roman rule to the Elbe was definitely abandoned. It is in this district that we meet with the earliest use of the term *limes*, which was in time to become synonymous with frontier, by a gradual change of meaning which connotes a change of policy.

In its original significance *limes* denotes a military road, such as the Romans constructed when opening up a newly conquered territory. Such were the roads made under Augustus, which ascended the valleys of the Lippe and the Main, and were doubtless intended to pave the way for the conquest of Western Germany. These *limites* were protected by *castella* occupied by 'auxiliary' regiments, such as the *castellum Lupiae flumini adpositum* of Tacitus (*Ann.* ii. 7), which is probably to be identified with Aliso (mentioned by Tacitus in the same chapter). The remains of such *castella* have been found in the valley of the Lippe at Haltern and Oberaden (both of which sites have been identified with Aliso), and in that of the Main at Höchst. In such cases the word *limes*, which is derived from the vocabulary of the land-surveyor, has not the sense of 'boundary', but that of 'track'. *Aperire* (*Vell.* ii. 120) or *scindere limitem* (Tac. *Ann.* i. 50) simply means 'to clear a track' through a pathless forest, such as those of Northern Germany, in order to render the communications of an advancing force easier and more secure.

In writings of the Trajanic and later periods, we find the word *limes* used in the sense of 'frontier'. Tacitus, for example, speaking of Domitian's defeat by the Dacians, says (*Agr.* 41), *Nec iam de limite imperii et ripa sed de hibernis legionum et possessione dubitatum.* Here the words *et ripa* seem to be explanatory of those which precede, so that no special system of frontier defence is implied. There can be no doubt, however, that it was the adoption of such a system which brought about the change in the meaning of the word *limes*. Under the Julio-Claudian dynasty there was no attempt to extend Roman rule beyond the Rhine; on the contrary, shortly after the withdrawal of three of the Rhine legions for the conquest of Britain, Claudius ordered all garrisons to be withdrawn from the right bank (Tac. *Ann.* xi. 19). A strip of land was, however, reserved for the use of the legions (op. cit. xiii. 54), and no encroachment upon this was permitted to the German tribes. Tiles were manufactured in the brickfields of the right bank (*tegularia Transrhenana*), and in the regions occupied by friendly tribes, such as the Wetterau and Taunus, where the Mattiaci[1] remained faithful to Rome until the revolt of Civilis. Roman troops were employed in exploiting the natural resources of the country (op. cit. xi. 20). In the reign of Vespasian began the forward movement whose object was to cut off the re-entrant angle of the Rhine-Danube frontier. In A. D. 73–4 the thinly-populated district between the Rhine and the Neckar was occupied. In recording this movement—the details of which are entirely unknown to us—Tacitus (*Germ.* 29) uses the phrase *limite acto promotisque praesidiis.* The *limites* here mentioned were the military roads which started from the legionary camps at Strassburg

[1] The *Castellum Mattiacorum* built by Drusus preserves its name as Kastel, the *tête-de-pont* opposite Mainz, which was the head-quarters of the Upper German army (Tacitus, *Ann.* i. 56).

LIMES Germaniae et Raetiae.



R.V. Darbishire, Oxford, 1907

(Argentoratum) and Windisch (Vindonissa) and met at Rottweil, where a centre of the Imperial worship for the newly annexed territory was set up under the name of the 'Flavian altars' (*Aruae Flauiae*). The military roads were prolonged as far as Tuttlingen on the Danube and Rottenburg on the Neckar (see Map 7), and the *praesidia* mentioned by Tacitus are to be seen in the earth forts of Waldmössingen, Rottweil, Sulz, and Rottenburg (see Map 7). Still, however, the *limites* retained the function of tracks by which the newly conquered district was penetrated rather than that of boundaries. Ten years later, however, Domitian took in hand the question of the Main valley and the Taunus. In A. D. 83 he led an expedition in person against the Chatti, and drove them from their seats in the Taunus range. He then established a chain of frontier defences which Frontinus, writing a few years later, describes in the words *limitibus per cxx milia passuum actis, subiecit ditioni suae hostes quorum refugia nudauerat.* This was the beginning of the system of frontier defence which in time was carried from the Rhine to the Danube, and has in modern times been called 'the *limes*' *par excellence*. From a point on the Rhine opposite Brohl a frontier track ran south-eastwards, crossing the Lahn, till it reached the western extremity of the Taunus, from which point it ran along the summit of the range, then turning southward, struck the Main at Kesselstadt (see Map 7). Along this line were built small earth forts, on the average about 85 metres square: the remains of these have been found beneath those of the stone forts which at a later date took their place (for example, at the Saalburg[1]), and we know at least one instance (at Seckmauern) where the original earth fort was never built over. Between the forts were wooden watch-towers, and some traces of a fence have been discovered. But Domitian did not trust wholly in so weak a line of defence. In rear of this *limes* were built a series of stone forts (at Hofheim, Heddernheim, Okarben, and Friedberg), large enough to accommodate a *cohors quingenaria*, from which the frontier forts could be quickly reinforced, and upon which the garrisons, if hard pressed, could fall back. They were connected by a system of roads, and the chief highway of the district, which followed the valley of the Main, was secured by stone forts at Höchst, Frankfurt, and Kesselstadt.[2]

The strength of these defences was soon put to the test, for in A. D. 88–9 the commandant of the camp at Mainz, L. Antonius Saturninus, was proclaimed emperor by the Fourteenth and Twenty-first Legions, and the revolting troops were aided by the Chatti, who burst through the line of forts and made their way down the valleys of the Lahn and the Main: several of the earth forts on the *limes*, and one at least of the stone base forts (at Okarben), bear traces of

[1] At the Saalburg the earth fort measures 33 x 78 m., while the stone fort which took its place measured 221 x 147 m.

[2] The length of this frontier-line, from Rheinbrohl to Kesselstadt, corresponds pretty accurately with the 120 Roman miles of Frontinus (v. *supra*).

having been partially destroyed by fire and rebuilt. The revolt was, however, speedily suppressed.

Domitian now determined to link up the northern *limes* with the district annexed by Vespasian. A glance at the map will show that for a considerable part of the distance the Main and Neckar formed a natural boundary; only where the line of defence crosses the Odenwald (between Wörth, on the Main, and Wimpffen, on the Neckar) was a *limes* and chain of forts similar to those of the Taunus necessary. This is precisely what we find; and there can be no doubt that this extension was due to Domitian. On the rivers, however, we find not earth but stone forts; but this is not of necessity to be interpreted as a mark of later date. Where the frontier was strengthened by a river, it was thought safe to place the cohort-camps in the front line, while in a district such as the Odenwald we may be sure that there were base forts in which bodies of troops were held in reserve. But even here we find cohort-camps at Ober-Scheidental and Neckarburken. In any case, there can be little doubt that Vespasian's line was prolonged northwards by Köngen to Cannstadt and a continuous chain of defence established. It does not, however, follow that this marked the limit of Roman occupation. A Greek inscription found at Rottenburg (Sumelocenna)[1] mentions a 'procurator of the district (χώρα, probably = *tractus*) of Sumelocenna and that beyond the *limes* (ὑπερλιμιτανῆς)', which formed part of the Imperial domains; and this suggests that the function of a *limes* was not altogether military; the regulation of traffic and intercourse between barbarian and Roman was also made easy thereby.

In our own island the reign of Domitian likewise saw the beginnings of a system of frontier defence. In A. D. 78 and the following years Gn. Julius Agricola, as Governor of Britain, reduced to submission a number of tribes hitherto independent of Rome. Tacitus tells us (*Agr.* 20. 3) that at the close of his second campaign he secured the conquered districts by a line of *praesidia* and *castella*; this may have occupied the site of the wall from Tyne to Solway to be discussed later. In A. D. 81 he reached the estuaries of Forth and Clyde, and here again a line of *praesidia* was established (op. cit. 23), which have not perished without leaving traces of their existence. The clearest are to be found at Bar Hill, a station on the line of Antoninus Pius's rampart (see below, p. 249). Below the level of the Antonine *castellum* were found the ditches surrounding an earth fort measuring 191 × 160 feet. The inner ditch, about 9 feet wide by 4½ feet deep, had but one entrance, on the eastern side. The outer ditch is somewhat irregular in outline; it is ingeniously doubled in front of the main entrance of the fort. We can subscribe to the eulogy of Tacitus, who tells us that experts remarked the sagacity shown by Agricola in choosing sites (*Agr.* 22); but as a system of defence for the newly-won territory a chain of posts so weakly held as these must have been, could

[1] Dessau 8855.

have had little value. They could have received but little support from their distant base in case of serious attack, and probably depended upon the fleet for supplies.[1]

The reign of Trajan is notable rather for the extension of the territories of Rome than for any measures of systematic defence; but it is to be observed that he lavished time and money on the construction of great military highways along the frontier lines, trusting, as it would seem, mainly in the rapid concentration of overwhelming forces to paralyse hostile inroads. The most famous of these was that which connected the Rhine frontier with the Danube, the defence of which presented an increasingly serious problem. A late biographer speaks of it as a 'road through fierce peoples easily traversed from the Black Sea to Gaul';[2] and Trajan himself, in the famous inscription carved on the rock of Orsova, where the road is carried through the Iron Gates on an artificial shelf cut in the sheer cliff, tells how he 'cleft mountains and cut off projecting crags'.[3] From Cannstadt, an important post on the *limes*, connected with Mainz by a route which dates from the reign of Domitian, two roads led to the Upper Danube. One of these ascended the valley of the Fils, crossed the watershed to Urspring, and was carried on to the Danube at Faimingen, which was connected with the important town of Augusta Vindelicorum (Augsburg). This, however, soon ceased to mark the limit of Roman occupation: the *limes* proper was formed by a road, dating from Trajan's time, which ran up the valley of the Rems to Aalen and followed the northern edge of the Jura, then descended into the valley of the Altmühl, which it crossed at Pfünz, reaching the Danube at Eining. From this point to the Black Sea the *limes* followed the course of the river.

It was not only on the north that Trajan pursued this policy. In North Africa the gradual extension of the pacified area is marked by the construction of military roads. The highway from Theveste to Lambaesis (see Map 4) may be regarded as a link in the chain of defence which secured the corn-growing lands of the province of Africa: but it formed only the inner line, since as early as A.D. 97 we find Roman troops in the region of the Shotts,[4] and in A.D. 105 a road, which may be regarded as the *limes* of the provinces, was constructed to the south of the Aurés range, which on the west commanded the outlet at Bescera (Biskra) and on the east was linked with the highway which since Augustus's reign had connected Theveste, Capsa, and Tacape, and

[1] At Newstead, near Melrose, an important station commanding the passage of the Tweed, the remains of a large fort have been excavated. There are traces of at least four successive occupations, the earliest of which dates to the time of Agricola. It served as a base fort for the time from Clyde to Forth.

[2] Aurelius Victor, *Caes.* 13. [3] *C. I. L.* iii. 8267.

[4] This is proved by an inscription found in 1891, between the Shott-el-Djerid and the Shott-el-Gharsa (*Comptes rendus de l'Académie des Inscriptions*, 1891, 293).

served as a frontier line. The coast road was about the same time prolonged to Leptis.

In the East the incorporation of the territory of the Nabataean Arabs in the Empire (A. D. 105) created a fresh frontier-problem; and here too Trajan's first step was to construct a military highway with strong posts at intervals; the remains of these—at Odruh, El-leğğun and El-Kastal—show that auxiliary cohorts supplied the frontier garrisons. At a somewhat later date an outer chain of forts (scarcely 20 miles to the east) was added. What steps were taken to protect the newly won province of Dacia we are not able to say: on the east the line of the Aluta was certainly held.

With the reign of Hadrian we come to a turning-point in the history of the frontiers. Not only is the period of expansion abruptly closed, but a systematic attempt is made to fence the Empire about with permanent barriers, where such were not furnished by the hand of nature. Hadrian's biographer tells us that 'where the barbarians were separated from the Empire not by rivers but by *limites*, he kept them out by means of tall stakes planted deep and joined together after the fashion of a wall-like hedge'.[1] Such a palisade, consisting in split oak-trunks standing 9 feet high, implanted in a ditch 4½ feet deep, and bound together on the inside by cross-beams, has left its traces throughout the whole length of the *limes* from Rhine to Danube, and may be certainly identified as the work of Hadrian. Its military value may be called in question, but for the control of traffic and intercourse between Roman and barbarian it was doubtless effective. It would seem, however, that Hadrian held it of sufficient defensive importance to justify the abandonment of the elaborate system of base forts devised by Domitian. The auxilary regiments were now quartered in large stone forts erected (as e. g. at the Saalburg) on the site of the old earth forts on the *limes* itself;[2] and base forts such as Friedberg and Heddernheim were dismantled. At the same time the windings of the old frontier were, as far as possible, replaced by straight lines, in order to give direct communication between the frontier forts.

The work of Hadrian on the Raeto-Germanic *limes* does not stand by itself. In other parts of the Empire we find the same system of mechanical barriers, which in their earliest form may generally be attributed to Hadrian. That the line of fortifications which crosses Northern Britain from Tyne to Solway was traced by him is an undoubted fact: but it is by no means so easy to determine what was the original nature of the barrier here set up. It is well known that the existing remains are those of a stone wall with forts (to be described later), to the south of which is an earthwork, or *vallum*, as shown in Fig. 48. The *vallum* consisted in a fosse 7 or 8 feet deep, 30 feet wide at the top and about 15 at

[1] *Vita Hadr.* 12.

[2] At the same time stone watch-towers took the place of wooden ones.

the bottom, with two high ramparts to north and south and a third and much lower one, possibly due to a later clearing of the fosse, on the southern edge. Behind the forts it has been worn down and sometimes filled up. Between the *vallum* and the stone wall ran a military road. So far as external evidence goes, it points to the conclusion that Hadrian's fortification consisted, neither in stone wall nor *vallum*, but in a turf rampart; since the biographer of Antoninus Pius (5, 3) tells us that that emperor raised a *second* turf-wall in Britain.[1] And remains of such a *murus caespiticius* have in fact been discovered in the neighbourhood of the station of Amboglanna (Birdoswald), which it seems reasonable to identify with the work of Hadrian. The problem of the *vallum* is a more difficult one, and has not yet received a satisfactory solution. It is hard to see that it could ever have possessed much value as a military defence, and it seems more probable that it marked a line of civil frontier. In the Danube provinces, too, the work of Hadrian may be traced with

FIG. 48. Section of wall and *vallum* in Northern Britain.

much probability. From Kustendje (Costanza, the ancient Tomi) on the Black Sea to a point south of Crnavoda on the Danube, a series of defensive works span the Dobrudja. We find a larger and a smaller earthwork: the former of these is the more northerly, and is protected by earth forts at intervals of about 1 kilometre, while the southern *vallum* has no adjuncts save a ditch on the south side. There is also a *stone* wall, the line of which crosses and recrosses the northern *vallum*, and is clearly later in date. The northern *vallum*, which, like the German palisade, takes as direct a course as possible, may be assigned to Hadrian; as for the southern earthwork, it may perhaps be due to barbarian rather than Roman hands. The province of Dacia also had its *limes*. Where the river Aluta formed the boundary, no special defences needed to be constructed: and the same may be said of the northern boundary of the province where that was formed by the Szamos; but abundant traces exist of an artificial barrier running from Tiho to Kis-Sebes. The method of construction varies: sometimes we find a stone wall, at others a palisade, or

[1] Forts similar to those on the *limites* were also planted in the hilly districts of Britain, whose inhabitants were of doubtful loyalty. Thus a number of auxiliary *castella* have been discovered in Wales, one of which—at Gelligaer—is a remarkably perfect example of the type; and there were others in the mountainous country of the Brigantes (mod. Yorkshire and Derbyshire), such as those of Brough and 'Melandra Castle', near Glossop.

again a fosse and dyke, or even a mere *vallum* without a ditch. The difficult questions arising from this diversity of construction have not yet been settled; but the inception of the undertaking can hardly belong to any other time save that of Hadrian.

It is to be noted that the *limites* thus traced were not coincident with the extreme limit of military occupation. Outside the *vallum* of the Dobrudja was the legionary camp of Troesmis: to the east of the Aluta irregular corps such as the Syrian archers and the *burgarii et veredarii Daciae inferioris* had fortified stations; to the north of the British *limes* such positions as Bremenium (High Rochester) were strongly held. All these facts lend colour to the view that the function of the mechanical barrier was as much civil as military.

It is very probable that the works described above belong to the earliest years of Hadrian's reign. Almost his first act was to regulate the affairs of the Lower Danube; and he appears to have visited Germany in A. D. 121, and Britain, where the destruction of the Ninth Legion called for his presence, in A.D. 122. It is not so clear whether the advance of the German *limes* belongs to the latter years of his reign or to that of his successor, who certainly built a chain of forts to the east of the Aluta as advanced posts for the defence of Lower Dacia, and likewise extended the area of military occupation in Britain by the construction of an earthen rampart from the Forth to the Clyde, with forts at intervals ranging from (roughly) 2,500 to 4,800 yards. It doubtless followed fairly closely the line of Agricola's *praesidia*—although one of these, at Camelon, lies a little to the north of it—in fact, as has already been mentioned, we find the stone fort of the second century built on the site of the earlier earthwork at Bar Hill.

The Vallum was constructed, as is shown by the inscriptions found on its course, by detachments of the Second, Sixth, and Twentieth Legions—the first cohort of Tungrians is also mentioned—acting under the orders of Q. Lollius Urbicus, Governor of Britain about A. D. 140–2. It stretched from Chapel Hill, near Old Kilpatrick, on the Clyde, to Bridgeness, near Carriden, on the Forth, a distance of about 36½ miles. Towards the extremities all traces of it have ceased to exist: but for a considerable part of its course the outline of the fosse is traceable, and in some places the whole structure is well preserved. The defences consisted in

(*a*) The outer mound, formed by the upcast from the fosse. This is irregular in shape, usually flat-topped where the ground is level, but higher and with a narrower crown when the ground slopes northwards.

(*b*) The fosse, which is V-shaped (*fastigata*), but has the peculiarity that both scarp and counter-scarp, which are inclined at an angle of from 26° to 30°, have a perpendicular drop of a foot or so from the lowest point, so that the bottom of the ditch is flat. The average depth was about 12 feet, the width varies from 20 feet (where the vallum runs along the

foot of a hill) to 40 feet, which is normal. The counterscarp is artificially heightened.

(*c*) The berm, a flat ledge about 25 feet wide between the rampart and the ditch. The width is in excess of that usually formed in Roman fortifications, and has not been satisfactorily explained.

(*d*) The rampart or *vallum* proper. This was 14 feet in thickness, resting on a stone base—rubble enclosed by two lines of squared freestone kerbs.[1] It was built of sods, laid probably grass to grass, as is shown by the dark horizontal lines which are seen in sections, representing the decayed vegetable matter on the surface of the sods. The original height of the *vallum* is a matter of conjecture, but as its sides must have been battered for safety, and the top can scarcely have been less than 6 feet in width, we may perhaps assume that it was from 10 to 12 feet high.

About 40 or 50 yards to the south of the rampart ran a military highway, about 17 feet broad, which served as a means of communication between the forts.

In the latter half of the second century A. D. the tide of barbarism began to turn against Rome. It was all that Marcus could do to maintain the Danube frontier against the Marcomanni, Quadi, and Iazyges; we are told that he contemplated the annexation of the territory occupied by these tribes, and the formation of new provinces under the names of Marcomannia and Sarmatia, and a glance at the map of Central Europe will show that the occupation of the Northern Carpathians and the Bohemian quadrilateral, *if an adequate force could be spared for their defence*, would have given the Empire an impregnable barrier against its northern foes. But the task was too great for the rulers of the time; and with the advent of the new dynasty of the Severi we come to the last phase in the construction of mechanical barriers. In Britain the outer line of defence fortified by Antoninus Pius was abandoned—the finds indicate that the stations were never occupied after the reign of Commodus—and the Hadrianic *limes* received its final shape as a solid wall of rubble faced with *opus quadratum*, averaging about 8 feet in thickness, and probably in origin about 17 feet high. It is this wall whose remains form so conspicuous a monument of Roman rule in Britain, often but, as it would seem, wrongly, ascribed to Hadrian. At intervals of 1,000 Roman paces, as nearly as the nature of the ground permits, as well as at the points needing special protection, such as river-crossings or defiles, we find small forts—commonly termed mile-castles—measuring about 60 by 50 feet, built in massive masonry, with gates in their northern and southern sides; and between the mile-castles were turrets for sentries, three to a mile, recessed in the wall itself. But the chief protection was afforded by the seventeen cohort-

[1] It was drained at intervals by culverts.

camps, the list of which, with that of the troops which formed their garrisons, is furnished by the *Notitia Dignitatum*. It is impossible here to do more than describe a characteristic example of these forts, which may serve to typify the frontier-stations of the Roman Empire.

We may take for our example the cohort-camp of Borcovicus or Borcovicus (Housesteads), where the systematic excavations of Prof. Bosanquet in 1898 have made it possible to trace the disposition of its parts with accuracy (cf. Fig. 49). We know, moreover, that Borcovicus was garrisoned from first to last by the *cohors prima Tungrorum*[1], which was a *cohors miliaria*, nominally 1,000 strong, but was not, like the second regiment of Tungrians, which was also quartered in Northern Britain, furnished with a cavalry contingent. The fort stands on the very edge of the basaltic cliff, forming the escarpment of the Wall, which coincides with its northern front. It is oblong in shape, measuring 610 feet by 367, and in this respect departs from the usual type which is square or nearly so. Possibly it may have been lengthened by extension to the west, as there is reason to think that other forts on the Wall—Cilurnum (Chesters) and Amboglanna (Birdoswald)—were increased in length by additions projecting to the north of the Wall. The walls of the fort, which were strengthened internally by an embankment of earth to the height of five feet and an inner reclaiming-wall[2], enclose a space of nearly five acres. The corners were, as usual, rounded, with angle towers. Two towers have also been discovered on the east and one on the south side, and others flanked the four gates by which the fort was entered. All the gates had originally double entrances, but towards the close of the Roman occupation each had one of its passages blocked. If we adopt the nomenclature of the legionary camp, we must call the north and south gates the *portae principales*, in spite of the fact that the former is that which faces hostile territory, and the street which connects them the *via principalis*. In the centre of this street we find on the western side the *principia* or head-quarters building (x)[3]. During the later Roman occupation this underwent considerable alterations, but excavation has made it possible to trace the original plan. The *principia* measured 89½ feet by 76 feet 4 in., and were partly built on an artificial platform, owing to the slope of the site. An arched entrance led into an outer court (4), which on three sides was bordered by a portico 9½ feet deep supported by stone columns and angle-piers, and covered with a slate roof sloping inwards.

[1] The Tungrian cohorts, as their name shows, were originally raised on the Rhine. They took part in the civil war of A. D. 69 (Tac. *Hist.* ii. 14 f.), and are found in Britain as early as the time of Agricola, under whom they served with distinction, notably in the battle of the Mons Graupius in A. D. 83 (Tac. *Agr.* 36).

[2] This is broken at certain points by buildings, e. g. the latrines, which were immediately to the west of the south-east angle-tower (see Plan).

[3] Often, but less correctly, styled *praetorium*.

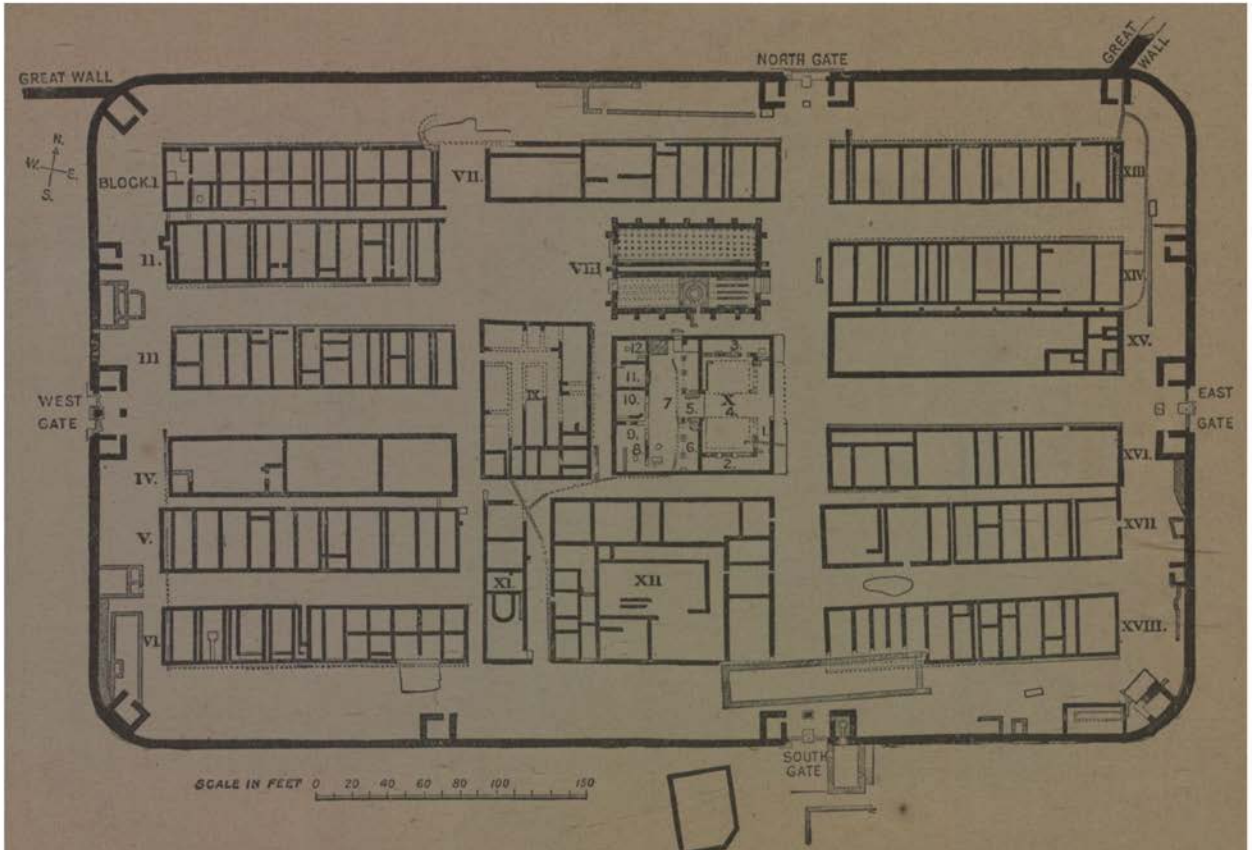


Fig. 49. Plan of fort at Housesteads (Borcovicus).

Opposite to the entrance was a doorway 12 feet wide, spanned by an arch leading into an inner court (7), 30 feet deep, bordered on the outer side only by a portico similar to that of the outer court with a central archway (6). The court had a lateral entrance on the northern side, and possibly also on the south, though no trace of this remains. Facing this court was a row of five chambers (8–12), four of which had broad doorways opening on the court, whilst the corner chamber on the right (12) was entered by a side door in No. 11. The five chambers are a feature common to the *principia* of many Roman forts, and no doubt had well-defined functions. There can be no doubt that the central chamber was the *sacellum*, in which the *signa* were kept (cf. p. 242), and worshipped together with the genius of the regiment and the divinities of the Imperial House; amongst the other chambers we must seek the treasury of the cohort and the *tabularium*, where the accounts were kept. It is a reasonable conjecture that where we find an artificially heated chamber we may recognize this latter room, where a staff of clerks (*librarii*) was constantly at work. At Borcovicus the plan of the five chambers was altered during the later occupation. Rooms 8 and 9 were thrown into one; the entrance of 8 was then blocked up and that of 9 contracted. The entrances of 11 was also blocked, so that 11 and 12 could only be approached through 10. There are signs that an upper floor was constructed in these chambers[1], and as a quantity of flue-tiles were found in the débris we may be sure that the *tabularium* is to be sought here. The lower floor of the innermost chamber will then be the strong-room, containing the archives and military chest.[2] A large find of arrow-heads was made in this angle; but this proves nothing as to the original destination of the chamber. We now come to the quarters of the troops, which preserve the form of the *hemistrigium*, but when grouped in pairs were not back to back but face to face. A glance at the Plan will show the significance of this grouping. It will be seen that in each angle of the fort there were three *hemistrigia* (I–III, IV–VI, XIII–XV, XVI–XVIII), besides one in the centre of the north front (VII). Since two of these blocks, as we shall see, differ from the usual type (IV and XV), and a third may have been destined for special purposes, there remain ten in which the ten companies (*centuriae*) of the cohort must have been housed. These were so disposed that the doors of the *contubernia* faced the rampart; and it is easy to see that in an advanced post exposed to sudden attack this arrangement was admirably suited for immediate defence, whereas in a permanent camp such as that of Novaesium (§ 5) the confinement of each *centuria* in a narrow cul-de-sac was more conducive to the maintenance of discipline. It was not possible at Borcovicus to undertake a complete excava-

[1] This is a very unusual feature. It is conjecturally restored in the Saalburg, but on very doubtful evidence.

[2] In many forts an underground chamber beneath the *sacellum* formed the strong room.

tion of the blocks; but it was clear that, like those of Novaesium, they were divided into *contubernia*, ten or eleven in number. In one case the presence of a hearth seems to indicate the centurion's quarters at the end of the *hemistrigium*. The blocks vary in length, measuring 152–169 by 33–37 feet, so that the space allotted to each soldier but little exceeds that allowed by Hyginus for his imaginary field-force.

It has already been mentioned that two of the blocks presented special features. No. IV contained several pieces of iron slag and masses of burnt clay, showing that smelting works had been carried on therein. It was doubtless the *fabrica*. No. XV, a buttressed building, in which no partitions could be traced, had a small suite of baths at its eastern extremity. It may have been a *schola* in the later sense of the word (p. 242). It remains to describe the buildings (other than the *praetorium*) in the centre of the fort. Immediately to the south of the *praetorium* was the residence of the commandant (XII), a building measuring 124 × 82½ feet. It has a central court with a corridor running round it, upon which the rooms opened. To the north of the *praetorium* were the storehouses or *horrea* (VIII). These consisted in two long and narrow buildings parallel with each other. They had thick walls strengthened with buttresses and floors raised in the one case on stone pillars, in the other on dwarf walls, which made them practically damp-proof. Such storehouses are a standing feature in the forts of Northern Britain, and are always placed in the *latera praetorii*. Behind the *horrea* was an open space, which we may conjecture to have been the *Forum* of the camp; whilst in the rear of the *praetorium* was a building somewhat resembling in its general plan the camp-hospital (*valetudinarium*) at Novaesium. Possibly it may have fulfilled the same function. A small building, 89 × 24 feet, containing an apsidal structure, stood behind the commandant's house, and in the centre of the north front was a *hemistrigium* which appears to have contained offices—perhaps the camp-prison may have been here.

The fort which we have described is typical of those which, in the second century A.D., were erected on all the frontiers of the Empire. The first-century earth forts of the Flavian period have naturally left much less enduring traces. Their most interesting feature was the system of ditches—often threefold—with carefully protected entrances. Sometimes we find a straight ditch covering the gateway (described by Hyginus as a *titulus* or 'label'); or again, the rampart curves inwards as it approaches the entrance from the left side, so that an attacking party would be forced to expose their right sides as they neared the gateway. This is called by Hyginus the *clavicula* or 'bolt', and is found at Newstead.

Even in their remote garrison posts the Roman soldiers did not forego the amenities of civilized life. There was probably not a fort without its suite of baths. These *balnea* are occasionally found inside the *castellum*, but much more commonly in an

'annexe', itself as a rule defended by rampart and ditch. In these 'annexes'—of which there are as many as three attached to the fort at Newstead—dwelt the civil population which followed in the wake of the troops, forming a settlement similar (though smaller) to the *canabae* adjoining the legionary camps; and the baths were a kind of club frequented by the soldiers and their friends. Even the earth fort of Inchtuthil, which was probably occupied by the army of Agricola in its northerly advance, had an elaborate *balneum* more solid in its construction than the camp to which it belonged.

The wall in Northern Britain, if the most massive, was not the longest built by Roman engineers. In the eastern section of the Rhine-Danube *limes*—the *limes Raeticus*—we find a massive wall 175 km. in length, which must have been at least 2½ metres in height and is more than 1 metre wide; to make room for this Hadrian's palisade was destroyed. We cannot tell why the same plan was not adopted in the German section, where we find an earthen dyke and fosse, which did not take the place of the palisade, but were erected behind it.

In the Dobrudja the stone wall above mentioned, which is about 61 km. in length, is embedded in an earthen rampart with a ditch ten metres wide and three deep. The date of its construction is a matter of dispute, and many authorities hold it to be a work of the fourth century A. D.; we find fragments of architectural ornament from Tomi used in its construction, and this fact is certainly in favour of a late date. But the analogies of Britain and Germany would lead us rather to assign it to the time of the Severi.

The system of mechanical barriers was tried and found wanting in the wars of the third century A. D. Under Severus Alexander the German invaders broke through the *limes*, and actually crossed the Rhine; and although they were for a time driven back by Maximinus Thrax, the foothold of the Romans on the right bank of the river was henceforth precarious, and the Transrhenane possessions of Rome were irrecoverably lost under Gallienus. The 'Empire of the Gauls' was called into being by the stress of barbarian pressure: but all that it could do was to maintain the Rhine frontier.

In other parts of the Empire the term *limes* had now acquired a fresh signification—that of an open frontier protected by a chain of small blockhouses (*burgi*). The word is of Teutonic origin, and its derivative *burgarius* is found in an inscription dating from the close of Hadrian which mentions a *numerus burgariorum et veredariorum Pannoniae Inferioris* stationed in Lower Dacia. But the blockhouse system seems to owe its inception to Commodus, who, as an inscription records,[1] fortified the right bank of the Danube in this way *ad clandestinos latrunculorum transitus*; while there is evidence to show that the same system was adopted in

[1] *C. I. L.* iii. 3385.

Africa. This became the normal mode of defence on the southern and eastern frontiers. The *limites* were organized as independent military commands, and in the perfected scheme of Diocletian each was placed under a *dux*, while the garrison troops of the Empire bore the title of *limitanei*. Diocletian did much to provide the frontiers with fortified posts. On the upper Rhine, in Arabia and in Africa, we find the type of *castellum* which is characteristic of this period—square in outline with small posterns as well as the principal gateways. But a chain of *castella* and *burgi* is of little value against serious attack unless the defenders can be readily reinforced from a base in the rear: and this fact was not sufficiently recognized. Legionary camps were built *on* the *limites*, e.g. at El-leğğum on the *limes Arabiae*, where the *Legio IV Martia Victrix* was quartered: and it must be supposed that the field-army (*comitatenses*) was regarded as an adequate support for the frontier garrisons. The history of the two centuries following Diocletian's reorganization was to prove that this confidence was baseless.

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§ 7. NAVAL WARFARE.

The early history of the Roman fleet is contained in a few scattered notices preserved chiefly by Livy. It is true that the story of a naval action fought on the Tiber in 426 B. C. is absurd, and rests on a misunderstanding of the term *classis* (cf. p. 196); but a 'long ship' (see below) is mentioned as conveying envoys to Delphi in 394 B. C., and whatever date we assign to the earliest treaty between Rome and Carthage, it can hardly be disputed that such instruments were negotiated in 348 and 306 B. C., and imply that Rome was already a naval power to be reckoned with in the western Mediterranean. In 338 B. C. the ships of the Antiates were taken and their beaks used to adorn the Rostra (p. 100); and the ship's prow appears as a symbol on the Roman *aes grave* from the earliest times. It was not, however, until 311 B. C. that a special naval command was created. In that year *duoviri navales*

were appointed by decree of the people (though in the following year we find the Senate directing the commander of the fleet to operate on the Campanian coast), and we hear of them from time to time up till the second century B. C., when they disappear from history. They were only appointed when the need for their services arose.[1] The extension of Roman influence in South Italy, the war with Pyrrhus, and especially the operations against Tarentum[2] (in which the Tarentines received the support of a Carthaginian fleet) brought home to the minds of the Romans the necessity for naval organization, and in 267 B. C. four *quaestores classici* were for the first time elected. In later times we find that their several head-quarters were at Ostia, Cales, Ravenna, and (probably) Lilybaeum in Sicily; but other duties (especially in connexion with the corn-supply) took the place of those for which they had first been appointed. Three years after their institution Rome became involved in the first and most important of her naval wars.

The narrative of the first Punic War in Polybius has been subjected to much criticism, and it seems that we must be sceptical as to the figures which he gives—e. g. the numbers of ships engaged in the battle of Ecnomus (330 Roman, 350 Carthaginian). The stages of the war and the composition of the fleets are, however, clear.

In 264 B. C., at the outset of the war, the Romans built a hundred quinqueremes and twenty tiremes, and naval contingents were also furnished by their allies in South Italy. This fleet, commanded by G. Duilius, the consul of 260 B. C., won a considerable victory at Mylae over the Carthaginian force of 130 ships, commemorated by the erection of the Columna Rostrata. We are told that the Romans owed their success to the 'ravens' (*corvi*), or boarding-bridges lowered by a rope and block at the mast-head, and furnished with a spike which became fixed in the enemy's deck.[3] The Carthaginian fleet, thus weakened in numbers, was again defeated at Tyndaris in 257 B. C. Carthage then resolved to make a determined effort to regain the command of the sea; Rome replied with a shipbuilding programme calculated, no doubt, to give her a margin of superiority; and the victories of Ecnomus (256 B. C.) and Hermaea (255 B. C.) would have established Rome's naval supremacy, but for the loss of all her battleships and prizes (save eighty) in a great storm soon after the last-named battle. The Romans lost no time in repairing their loss by fresh building; but we are told by Polybius that a second storm (in 253 B. C.) cost them 150 ships and forced them to 'retire from the sea'. The

[1] It would seem that when *duoviri* were appointed, each was usually given a squadron of ten ships.

[2] The Tarentines defeated the Roman fleet in 283 B. C.

[3] Some critics have cast doubt upon this story, believing it to be an invention of Fabius Pictor, the Roman annalist. They suggest that the *corvus* was really a grapnel, such as were in common use in the second Punic War.

truth of this narrative has been suspected; and the course of events makes it clear that Rome did not in fact surrender her command of the sea. In 250 B. C. she undertook the siege and blockade of Lilybaeum, and had 243 ships at sea in the following year, when P. Claudius Pulcher lost ninety-three ships in the disaster of Drepana and others at Lilybaeum, while a second fleet under L. Junius was wholly destroyed by a storm. Carthage was now unchallenged mistress of the waterways; but she neglected her golden opportunity, and in 242 B. C., by a supreme effort, the Romans put to sea with 200 quinqueremes built, as Polybius tells us, on the model of the ship of Hannibal the Rhodian, a famous pirate. This fleet, commanded by G. Lutatius Catulus, destroyed that of Carthage at the battle of the Aegates Insulae (Mar. 10, 241 B.C.), and brought the war to an end.

The Romans were now masters of the sea, and in order to retain a hold on their oversea possessions—Sicily, acquired by the terms of peace, and Sardinia and Corsica, surrendered by Carthage three years later—they were obliged to maintain a standing fleet, in part furnished by their allies in Italy. In 228 B. C. they crushed the Illyrian pirates with a force of 200 quinqueremes, and thus first displayed their power in Eastern waters. The naval operations of the Hannibalic War were not of primary importance in determining its issue. No serious effort was made by Carthage to challenge Rome's naval supremacy or to harass her coast-line, while the command of the sea enabled Rome to invade Africa in force and thus bring Carthage to her knees. By the terms of peace (201 B. C.) the Carthaginian fleet was surrendered, but only to be destroyed; and the Romans, having vanquished the chief naval power of the Mediterranean, no longer felt themselves bound to maintain an overwhelming force at sea. The history of the Roman navy in the second century B. C. is one of continuous decline, interrupted by outbursts of activity; moreover, Rome came to rely more and more on the forces supplied by her allies.

The result of this was that by the close of the century, piracy was almost unchecked in the eastern Mediterranean (where Rhodes, which had kept it under control in the days of her power, had been reduced to impotence by Rome), and when in 89 B. C. Mithradates took the sea with a fleet estimated by Appian at 400 sail, the Romans were at once swept off the Aegean. It was only the energy of Lucullus, who gathered together a fleet from the Greek allies of Rome, and the naval skill of the Rhodians, that restored the balance of power. But the senatorial government was slow to learn its lesson; the scourge of piracy grew past bearing, and the attempts to suppress it were wholly inadequate.

At length in 67 B. C. the Lex Gabinia was passed, entrusting the command in Eastern waters to Pompey, and a new chapter in Roman naval history was begun. His fleet numbered 500 ships; the Mediterranean was divided into districts, each of which was

patrolled by a squadron under a *legatus*; the strongholds of the pirates were taken and turned into naval bases, and in three months the sea was cleared of their craft. Pompey relied on the forces supplied by the Greek and Asiatic coast-towns and islands, and on the nautical skill of their captains, especially the Rhodians; and in the earlier civil wars naval strength was on the side of the East. At the outset Pompey controlled a fleet as large as that with which he had crushed the pirates, while Caesar could only put 150 ships on the sea, and his conduct of the campaign in Illyria, with Brundisium as a base, against enormous odds, was a triumph of genius assisted by good fortune. It was not, however, sea-power that determined the issues in this stage of the struggle. Pharsalus was decisive of the first war, just as Philippi ended the second, in spite of the fact that Brutus and Cassius, controlling the resources of the East, were far superior to the triumvirs in naval power. Under Octavian's rule in Italy, however, the balance was shifted. Sextus Pompeius succeeded to the control of the fleet gathered by the Liberators;[1] and Octavian was forced to realize that he must be met on his own element. Agrippa formed and trained a fleet of 300 ships in the land-locked basin formed by the junction of the Avernian and Lucrine lakes, and at Naulochus (36 B. C.) won a decisive victory over Pompeius. Five years later this same fleet, homogeneous in build, manned by crews trained on a definite system, and commanded by a single brain, defeated the more imposing[2], but less perfectly organized and equipped force gathered by Antony in the East. With Actium (31 B. C.) ends the history of naval warfare on a large scale in ancient times.

For the policing of the seas and the protection of the trade-routes, especially those by which the food-supply of Rome travelled, Augustus established a standing fleet. It was not, however, a public and national force, but a service privately organized by the emperor. The crews were at first slaves or freedmen belonging to his household (*familia*). From the time of Claudius non-Roman subjects (*peregrini*) were also enrolled, who received citizenship on their discharge after twenty-six years' service. The squadrons were commanded by *praefecti* of equestrian rank, who had generally earned their promotion by service in the land forces, e. g. as *primipili*, legionary tribunes or commanders of auxiliary troops. Of these squadrons (*classes*) the most important were those whose head-quarters were at Misenum (on the Bay of Puteoli) and Ravenna (which was connected with the Po by a canal dug in the early years of Augustus's reign). The *classis Misenatium* was responsible for the safety of the western Mediterranean; we find detachments stationed (amongst other places) at Ostia, Forum Julii (Fréjus on the Riviera), Alerion (in Corsica), Caralis (Cagliari

[1] He received the title of *praefectus classis et orae maritimae* from the Senate in April, 43 B. C., after the relief of Mutina.

[2] In size, not in numbers. See below, p. 263.

in Sardinia), and Panormus (Palermo). To the *classis Ravennatium* belonged not only the Adriatic (with stations at Aquileia, Ancona, Salonae, and Brundisium), but apparently the Aegean also. There was, however, a joint station of both fleets at the Piraeus, as also at Centumcellae, the modern Cività Vecchia, after the building of the new harbour by Trajan (p. 157). Other squadrons were the *classis Syriaca* stationed at Seleucia, the harbour of Antioch, the *classis Alexandrina*, which besides protecting the corn-fleet of Alexandria was responsible for the defence of the North African coast (with head-quarters at Caesarea (Cherchel) in Mauretania) until Commodus formed a special squadron for that purpose, the *classis Pontica*, taken over by Nero from the client dynasty of the Polemones, which patrolled the Euxine and Propontis, and had stations at Trapezus (Trebizond) and Cyzicus, and the *classis Britannica*, dating from Claudius's conquest of our island (head-quarters in Gesoriacum, the modern Boulogne, and stations in the Kentish ports). The emperors also maintained flotillas on the great rivers. The *classis Germanica*, which patrolled the Rhine and when necessary the North Sea, numbered 1,000 vessels in A.D. 16 (see Tac. *Ann.* ii. 6), but many of these were light craft, flat-bottomed barges, &c. The Danube flotilla consisted of two squadrons, the *classis Pannonica* and *classis Moesica*, stationed on the middle and lower Danube respectively. Detachments of the latter are shown on the reliefs of Trajan's Column; and we also see the *classiarii*, clad in a short tunic, employed in road-making. Indeed, the *pax Romana* was so firmly established in the waterways that the 'handy men' of the Imperial navy were regularly employed in peaceful tasks, such as the management of the awnings which protected the spectators in the amphitheatre. The fleets took some part in the civil wars of the Empire, especially that of A.D. 69, in which they did good service for Otho and afterwards for Vespasian, who *may* have rewarded the Italian squadrons with the title *praetoria*.

Such in brief outline is the history of the Roman navies. The ships of which they were composed varied greatly in build at different periods. In the Punic Wars the capital ship was the quinquereme, which (as Mr. Tarn has said) corresponds with the '74' of Nelson's fleet. In fact, Polybius appears to use the word πεντήρης much as we say 'battleship', and we are not to suppose that the fleets of quinqueremes which he mentions consisted solely of vessels which deserved that name. He notes that in the famous inscription of Hannibal in the temple of Hera Lacinia it was stated that in the fleet which he left in Spain in 219 B.C. there were fifty quinqueremes, two quadriremes and five triremes; and we may assume that a percentage of second- and third-rate ships took their place in the Roman squadrons. Probably these were furnished by Rome's allies, while quinqueremes *only* were built by the Romans themselves.[1] We hear of a Carthaginian

[1] Polybius tells us that a stranded Carthaginian quinquereme supplied

hepteres at Mylae; on the other hand, some of the Roman allies sent *pentekonters*, i. e. fifty-oared open galleys. The monuments give us no representation of a quinquereme; and the question whether such vessels could have had five *superposed* banks of oars has been much debated of recent years. It belongs primarily to the domain of Greek antiquities; for the trireme—said to have been invented by Aminocles of Corinth in 704 B. C.—furnished the type on which the larger warships were modelled, and its arrangement must first be determined. The explicit statement that its three groups of oars ('thranite', 'zugite', and 'thalamite') were in fact superposed banks is found in scholiasts and lexicographers, and however small their competence may have been in practical seamanship, they are doubtless drawing upon the stores of Alexandrian learning, which go back to a time when triremes &c., were to be seen daily in the harbours of the Greek East. Nevertheless it has been argued with much ingenuity that ancient warships were built after the fashion of Venetian galleys. These were of two kinds—*a zenzile*, in which the rowers sat in groups of three (all on one level), each pulling one oar, and *a scaloccio*, in which long sweeps were pulled each by several rowers sitting abreast. To assume that the larger warships of Hellenistic and Roman types were of this latter type no doubt removes many practical difficulties; but it is quite certain, from the evidence of literature and inscriptions, that one man pulled one oar not only in the Athenian trireme, but also in the quadriremes and quinqueremes built at Athens in the fourth century B. C., and it is hard to believe that there was a complete change in the significance of the group of words in *-ήρης* in Hellenistic times. The galley *a zenzile*, with its oars projecting in sheaves of three from large port-holes, gives us no help; for the word *τριήρης* refers to the three groups of rowers whose names are given above, and if they did not sit in tiers, there can only have been three 'squads' placed astern, amidships and in the bows. Lastly, the evidence of the monuments (as we shall see) confirms the view that the banks of oars in ancient warships were superposed. It is to be noted that the monster ships built for the Diadochi and more especially for certain of the Ptolemies disappear from ancient warfare in the Roman period, and were doubtless found to be costly and unwieldy failures. The ship of forty banks built for Ptolemy Philopator and minutely described by Callixenus was simply a curiosity, and the same may be said of the vessel of sixteen banks belonging to the Macedonian kings, retained by Philip V at the peace of 197 B.C., but surrendered to Rome in 167 B.C. Livy speaks of it as '*inhabilis prope magnitudinis*'.

But the tendency to reduce the dimensions of warships proceeded yet further. As early as the close of the fourth century B.C. we hear of craft called *ἡμιολίαι*, *δίκροτοι*, and *τριημιολίαι*, which

the Romans with the model of their first battleships in the first Punic War.

(if the accepted theory of the Greek warship be true) should mean vessels with one and a half, two, and two and a half banks of oars. How the half-banks (no doubt the upper banks) were placed we do not know; the δίκροτος (Lat. *biremis*) is represented on monuments of the Roman period. Such craft were largely used by the pirates of the Adriatic and Eastern Mediterranean on account of their superior speed; in fact, the fighting bireme used by the Illyrian corsairs was called a 'Liburnian'. These vessels formed a large element in the Eastern fleets from the Mithradatic Wars onwards. Thus Mithradates Eupator in 88 B.C., besides 300 'decked ships', i. e. triremes and higher ratings, had a hundred δίκροτοι; and a ἡμιολία is mentioned in the following campaign. There were ἡμιολίαι, too, in the fleet with which Pompey crushed the Cilician pirates. It is commonly said that the civil wars, and especially the battle of Actium, decided the issue between the bireme and the heavier line-of-battle ships in favour of the former, and it is true that the lighter types predominated in the Imperial navy. But this was no doubt because Augustus, having no naval power to fear, was able to discard the expensive types with multiple banks; and it is not clear that his successes in the civil war were gained with biremes. It is hard to say what was the composition of Sextus Pompeius's fleet; Appian notes the fact that his own flagship was a *hexeres* in such a way as to imply that this was an exception. But the historians are clear on the point that Agrippa outbuilt Sextus Pompeius in the height and weight of his ships, and thus got the better of him at Mylae and Naulochus. Antony determined to outdo him by building yet heavier ships, and several δεκήρεις went into action at the battle of Actium. The descriptions of the battle show that these were, so to speak, besieged by the lighter vessels of Augustus like floating castles;[1] but that the victory was *mainly* achieved by biremes is implied by Vegetius only amongst ancient authorities.[2] Florus tells us that Antony's vessels ranged from six up to ten banks of oars, and that the heavier ratings were unwieldy and unserviceable, while the ships of Augustus's fleet ranged from biremes to *hexeres*, and this statement may be accepted as correct.

The composition of the Imperial navy may be gathered from the inscriptions found chiefly at Misenum and other places on the Bay of Naples, as well as at Ravenna. Of the names of vessels known to us the greater number are those of triremes, and next to these come *Liburnae*, i. e. biremes. A few quadriremes are known, as well as one quinquereme and one *hexeres*. *Liburna*, however, became the conventional name for a warship, and is so used by late writers,

[1] Appian tells us that after Mylae, 'Sextus Pompeius complained that he had had to fight against "walls, not ships"'. Thus at Actium the position was reversed.

[2] iv. 33. He evidently writes under the influence of the usage, current in his time, by which *Liburna* meant 'warship' (v. *infra*); and it is to be noted that he speaks of 'the Liburni', i. e. the Illyrian contingents, not even of *Liburnae*.

even when they speak of the early naval history of Rome. On the other hand *trierarcha* is the title of a ship's commander, whether his vessel be a bireme or a trireme.[1] The scene reproduced on Pl. XLII from the Column of Trajan, which shows the departure of the *classis Ravennatium* from the harbour of Ancona on the outbreak of the second Dacian War in A. D. 105, represents both biremes and a trireme. It would be absurd to draw precise conclusions as to technical detail from a work which, in accordance with the conventions of ancient art, shows just as much as is necessary to tell a contemporary spectator the story which the artist wishes to impart. This is done by selection. The praetorian *signa* planted in the stern of the lowermost ship show that the guards, and therefore the emperor, are embarked on the fleet;[2] the lantern which hangs from the *aplustre*, or curved stern-post, of the trireme in the centre, indicates that the voyage takes place at night[3]; the awning spread over the topmost ship means that it carries the emperor. The arrangement of the oars is evidently determined by the artist's desire to economize detail; but surely it is obvious that superposed banks are represented. The device on the prow of the trireme, a sea-monster, points to its name—doubtless the Pistrix, like the vessel of Mnestheus in Vergil.[4] On a relief from Praeneste in the Vatican, which is probably to be dated to the beginning of the Augustan period, the crocodile takes the place of this monster. It is very possible that this relief, which belonged to a frieze, and was found in the temple of Fortuna, was dedicated in memory of the battle of Actium; and we see on the prow of the ship one of the towers which, as we know, were in use at that period.[5] These towers were used as gun-platforms for artillery, and belonged properly to the heavier battleships. The bireme, on the other hand, was designed for the ramming tactics inherited from fifth-century Greece, which had for a time given way to the boarding tactics of the earlier Hellenistic period and the Punic Wars. Wall-paintings, now faded, from the Temple of Isis at Pompeii, display a running fight of this type, in which one of the vessels engaged is just sinking. The relief from Trajan's Column shows a single ram; on a frieze in the Capitoline Museum three superposed rams are seen; while ancient writers speak of the ram as of trident shape. One or more upper rams were also used, as on the lowermost ship on Pl. XLII. The ram was employed, not

[1] It is not certain what were the duties of the *navarchus*, who was superior in rank to the *trierarcha*. Mommsen believes that the word means the commander of one of the heavier types of warship.

[2] This is clear from the context; otherwise we might suppose that the *classis praetoria* (v. *supra*) was, as such, entitled to use praetorian *signa*; a *signifer* in the *classis Misenatium* is named in *C. I. L.* x. 1080.

[3] A light was carried at night by the admiral's flagship in ancient fleets.

[4] *Aen.* v. 116.

[5] Appian (*B. C.* v. 106) explicitly tells us that Agrippa's ships had towers on both stem and stern, so that there is no reason to question the accuracy of the representation. The stem was, however, the natural place for a single tower.

Trajan's Embarkation at Ancona (from Cichorius, *Reliefs der Trajanssäule*).

merely to charge the enemy's ship, if possible amidships, and sink it, but also to disable it by shooting alongside and carrying away the rudders and oars; it was precisely in manœuvres of this kind that superiority in speed and training were decisive. This is clearly emphasized in Appian's account of Agrippa's victory at Mylae; and the advantage of light craft in such a fight was recognized by Philip V of Macedon, who defeated the Rhodians at the battle of Chios (201 B. C.) by the use of *lembi*, i. e. light piratical ships, generally with a single bank of oars[1] which wrought havoc among the heavy battleships of the enemy when they were no longer able to manœuvre freely in the *mêlée*. Thus the designers of ancient warships were confronted with the same difficulty which besets those of our own time—that of attaining the maximum of strength without undue sacrifice of speed; and the indecisive character of the actual fighting in the last great naval battle of antiquity left the question in reality unsettled, since the victory, due in great part to the flight of Antony and Cleopatra and its disastrous moral effect, deprived the ancient Super-Dreadnought of its *raison d'être*.

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[1] Livy speaks of Philip's *lembi biremes* in one passage; but this is quite exceptional.

CHAPTER IV

RELIGION

§ 1. Introductory.

In this chapter some account will be given, not only of the primitive religion of the Romans, so far as we can recover its outlines, but also (though very briefly) of the foreign elements by which the State worship was overladen and transformed, and of the exotic cults in which the cosmopolitan society of Imperial Rome sought a satisfaction no longer to be derived from primitive or official means of grace. The simple rites and beliefs of the household will be treated first. They preserve more of the truly religious spirit than the State cults, and the innate conservatism and family instinct of the Roman kept them in some degree free from disintegration. Moreover, the core of the State religion consists in a kind of expanded family cult. The history of this public worship will come next, followed by that of the voluntary religious associations formed in later times.

Native Roman religion has certain well-marked features. The Romans were a thoroughly unimaginative people. The objects of their worship were in primitive times simply the *numina*—'powers'—resident in certain places, persons, or objects; and these, though personal, were so far from possessing a definite and concrete form that their sex was often uncertain. *Si deo, sive deae* was a common formula in the prayers of the early Roman. It follows that the Romans had no native mythology. They were no story-tellers, and the legends which circulated amongst them in later times (such as we find in the *Fasti* of Ovid) were borrowed from, or inspired by, Greek literature, just as the art types of Roman divinities were derived from Greek sculpture. Moreover, they were an eminently practical people. From the beginning their relations with the divine powers were strictly business-like; and as they elaborated in their system of civil law a code which defined with admirable fairness the obligations of man to man, so they set up, in the *ius sacrum*, a parallel code laying down the obligations of man to God. The name *religio* signifies obligation, and to go beyond this—in other words, devotion—was *superstitio*. Thus, while the Romans had no mythology, they had a minute and elaborate ritual. The exact performance of the prescribed rites established a claim upon the gods for the special blessings conferred by each; but the slightest failure on the part of the worshipper—even if it concerned minute details of observance—entailed the forfeiture of the claim. Either the whole service must be repeated from the beginning, or a *piaculum* offered in the shape of an

additional sacrifice. Lastly, the Romans were extremely conservative, and though they constantly adopted fresh cults, the older forms of worship survived in practice; we are thus able to distinguish various strata in their religious observances. It is commonly assumed that in primitive communities magic—i. e. the endeavour to exert a direct influence on the processes of nature by symbolical acts—precedes religion in the proper sense, which in its lowest form—'animism', as it is called—implies the belief in personal spirits resident in and controlling the action of external nature. Putting aside the question whether, in the mind of primitive man, which is highly inconsequent in its reasoning, the two modes of thought belong to different stages of development or 'coexist freely', we may at least say that magic often survives when religion is fully developed, and that this was so amongst the Romans. They certainly practised sympathetic magic, i. e. the direct imitation of the natural phenomenon which they desired to induce, when they slew a red dog in order to destroy the red mildew which threatened their crops; and beside the purificatory rite of *lustratio*, the object of which was to combat the influence of hostile spirits, they practised *februatio*, a more primitive method of purification by which they endeavoured to rid themselves of material contamination. But such survivals are of no great importance. The primitive religion of Rome was that of an agricultural community emerging from the animistic stage of belief; and we are enabled to trace its outlines because, in the surviving calendars of the Roman year, the names of the *early* festivals (so far as they were celebrated on fixed dates) are inscribed in capital letters. Tradition ascribed the establishment of the calendar and the organization of the public festivals to Numa; and the 'religion of Numa' is a name conveniently applied to the native worship of the Romans. It is to be noted that there were no temples in this period; altars, groves, or open shrines were the only places of worship. Temple-building begins with the erection of the shrine of Jupiter, Juno, and Minerva on the Capitol; and this was the work of an Etruscan dynasty. To Etruscan influence succeeded that of Greece, and the subsequent history of the Roman State religion is mainly that of its transformation after the Greek model. Mainly, but not wholly; for the Roman theologians were constantly adding to the list of State gods deified abstractions such as Fides, Concordia, Spes, &c., and it has been conjectured that we owe to them the systematic classification of deities presiding over every moment and action of the life of man. We possess, under the name of the *indigitamenta*, a list of divinities, most of whom are mere etymological abstractions, such as the spirits which preside over the processes of agriculture—Occator, Sarritor, and the like; or those of human birth and growth—Potina and Educa, who taught the newborn child to eat and drink, Ossipago, who compacted the bony framework of his body, and so forth. It is much more likely that this strictly marshalled pantheon is the fruit of

theological speculation than that it dates back to primitive times; still it presupposes a logical and coherent animism which we may take to be the distinguishing mark of Roman religious belief. Bearing this in mind, we may proceed to consider the simplest form of worship—that of the household.

§ 2. Private Worship.

The nucleus of the Roman house (as we saw, p. 159) was the *atrium*; it was likewise the scene of family worship. Passing by the spirits who inhabited the entrance—Janus, the god of the door; Limentinus, of the threshold; and so forth—the most important of its divine inmates was Vesta, the spirit of the hearth, which in primitive times occupied the centre of the hut, whose symbol was the fire that blazed there. Only in late times do we find her represented in anthropomorphic form. Of the rites with which the sacred fire was tended we have no direct evidence, and what is to be said as to the worship of the hearth-spirit may be deferred until we come to speak of the State cult of Vesta. We are better informed as to the divinities whom the Roman householder worshipped under a more concrete form—the Lares, Penates, and Genius. Let us first consider their original significance.

The Lares are held by some authorities to represent the spirits of deceased ancestors; but the evidence adduced in proof of this is quite unconvincing. The most that can be said is that Varro and the school of theologians who followed him deduced this view from a supposed identity between the Lares and the Greek ἥρωες, which is a pure figment. In origin the Lares were simply *local* spirits, whether of the field or the house. Those of the fields (*agri custodes*, as Tibullus calls them) were worshipped at the cross-roads (*compita*) by the occupiers of the adjacent lands; and even in the town there was a similar worship, carried on at the *compita* by the 'masters of the ward' (*vicus*) in which the cross-roads lay (see below, p. 294). In the house a single *Lar familiaris* was worshipped as its protector—in fact, the use of *Lares* in the plural with reference to the house-spirit is almost unknown before the Augustan period, when the revival of the public worship of the *Lares compitales* seems to have led to their duplication in the household. On Fig. 50, which reproduces one face of an altar dedicated to the Lares of Augustus in A. D. 2, adorned with the figure of a Lar which (as the base shows) is conceived as a statue in the round. The type is familiar to us from numerous statuettes and wall-paintings, which agree in representing the Lar as a youthful male figure clothed in the *tunica praetexta* girt at the waist and (in the great majority of examples) lightly poised on both feet in the attitude of the dance. That this type became fixed at a fairly early date may be inferred from the words of the poet Naevius, who speaks of a Greek artist, Theodotus, as painting 'Lares ludentes'; and it is legitimate to conclude that they were

depicted as themselves taking part in the festive ceremonies of the *Ludi compitales* celebrated at the cross-roads in their honour. The pose of the arms needs a word of explanation. The figure shown on Pl. 50 holds a branch of laurel in the left hand, an attribute proper to the Lares of Augustus, before whose house on the Palatine a pair of laurels were planted by order of the Senate and people;

Fig. 50. Altar with figure of Lar.

but the household Lar is represented with a jug in the uplifted left hand and a bowl in the right. In paintings we often see the stream of wine pouring from the jug. Here, then, we again see the god himself performing the act proper to his worshippers.

With the Lares were coupled the Penates, who, as their name shows, were in origin the spirits of the store-cupboard (*penus*). In historical times, however, the original significance of the name had been entirely lost. In place of the impersonal spirits who watched over the accumulated store of the household, each family

worshipped certain of the higher gods which for some reason or another claimed its special devotion. The house-shrines found at Pompeii furnish abundant evidence of this. Those which are figured on Pl. XLIII are of the simplest order, and contain no images; but others have been found in which the *aedicula* still contains the figures of the household gods. One of these (found in 1881) contained six statuettes, representing (besides the two Lares) Apollo, Aesculapius, Mercurius, and Hercules; and a particularly fine one was recently brought to light in the *Casa degli amorini dorati*. In this were found two dancing Lares poised on one foot, with the *rhyton* in one hand and the *situla* in the other; three statuettes representing the Capitoline triad—Jupiter, Juno, and Minerva—seated on thrones; and a figure of Mercurius seated on a rock. The Lararium here occupied a place of honour in the peristyle, as in a few other houses; such shrines have also been found in the *atrium*, the garden, and other parts of the dwelling, but the most usual place for them is the kitchen—a survival of the days when the family meal was cooked and eaten in the *atrium*.

Beside these local spirits the Romans also worshipped the Genius of the family—or rather, of its head and representative, the *paterfamilias*. The name betrays by its etymology (root *gen* of *gignere, genus*, &c.) the original significance of the conception—the indwelling spirit which gave the father of the family the power to prolong its existence; thus the marriage-bed (*lectus genialis*) is under its special protection. This incorporeal spirit of manhood —to which corresponded the 'Juno' of the house-mother—in time assumed a visible form under the influence of Greek art, and in the Roman dwelling of historical times is represented as a male figure clad in the *toga* and carrying the horn of plenty in one hand while pouring a libation with the other. We often see such a figure standing between those of the Lares. The Genius is, moreover, symbolically represented by the serpent. In Greek art the serpent is often shown as it haunts the tomb or accompanies the dead in his reincarnation as a hero; and the Roman conceived it in much the same way as the embodiment of a familiar spirit. On the Pompeian Lararia (e.g. Pl. XLIII) two serpents are often painted; and where one of these is bearded (after the fashion of the snake on the well-known Spartan reliefs) it clearly represents the Genius of the *paterfamilias*, while the female corresponds to the 'Juno' of his wife.

From the objects of private worship we pass to the ritual. A provision of the Theodosian Code, dating from A.D. 392, when Theodosius the Great was endeavouring to stamp out the embers of paganism, forbade the householder to honour 'the Lares with fire, the Genius with wine, or the Penates with incense'; but this is a rhetorical prohibition and must not be interpreted literally. The offerings made to the household gods varied according to the wealth or piety of the worshipper and the solemnity of the occasion. Daily prayer and sacrifice were offered in the morning by

the pious, and the family meal was a religious ceremony. In early times the household (including slaves) took their food in the *atrium*, and a portion of the meal was set aside and thrown into the fire on the hearth. Later, when the kitchen and dining-room were separate, the offering was solemnly removed at the close of the *cena*, before the *secunda mensa* was served, and carried to the cooking-hearth. The images of the Lares were often placed upon the table at meal-times and honoured with incense and libations.

Family worship, again, had its calendar. The Calends, Nones, and Ides of each month were sacred to the Lares; in every household they were crowned with garlands and received offerings of incense and wine, while those who could afford it sacrificed a pig. The birthday of the *paterfamilias* was the chief festival of the Genius. Moreover, certain festivals of the public calendar were celebrated, not by the State priesthood, but in private households. The most interesting of these are those which kept alive the relations between the living and the dead. We find such ceremonies at two seasons of the year—in February and in May. The former month derives its name from the *februa*, or material instruments of purification (which might take many forms, such as wool, pine twigs, or strips of goatskin), which belong to the stratum of magic underlying 'animistic' Roman religion. But though the month is thus associated with primitive methods of purification from the contaminating influences of death, its festivals imply an intimate and peaceful communion of the living and the dead members of the family. At the Parentalia (to use a popular name), which began on the thirteenth of the month, the 'Di Manes' or 'good gods', as the Roman called his ancestors, were worshipped at the family tomb, while a general holiday was observed. The *dies parentales* (during which temples were closed and marriages forbidden) lasted until the twenty-first of the month, when the Feralia, a *State* festival, took place, and on the next day a family love-feast, the Caristia or *cara cognatio*, in which the Lares were summoned to take part. The ceremonies of May were very different in spirit. The Lemuria, which is noted in the calendar on May 9, 11, and 13, though it belongs to the list of public festivals dating from the earliest period (see below), was in historical times a domestic rite, celebrated by the *paterfamilias*, who rose at midnight, performed certain magical acts, such as the chewing and spitting out of black beans and the clanking of brazen vessels, and solemnly called on the 'Manes of the fathers' to depart from the house. Here we have a conception of the dead quite different from that implied in the February festival, as hostile spirits, to be expelled, not 'placated', and it seems impossible to distinguish the Parentalia as the festival of those who have been duly buried and tended, from the Lemuria, as that of those unburied and therefore jealous. The fact is that the Lemuria was a more ancient festival, and reflects a more primitive conception of the life of the departed.

Besides these general celebrations, family worship had its

Pompeian house-shrines.

special rites in connexion with the landmarks of the life of the household. We know something of the ceremonies which attended a birth in the family, the distinguishing mark of which is their rustic associations; they belong clearly to the life of the country and not to that of the town. As soon as the child was recognized as living, a meal was spread for the divinities Picumnus and Pilumnus; and during the night three men, armed with axe, stake, and besom, approached the house: the first two struck the threshold, the third swept out the floor. The tradition was that this was done to avert the spirit of the forest, Silvanus, whose entrance might be fatal to the newborn life. The naming of the child took place on the ninth day after birth; and every moment of its infancy was marked by the invocation of a special divinity, such as those mentioned on p. 268. It was protected from ghostly ills by the wearing of the *bulla*, a golden ball which was hung round the neck as an amulet, and laid aside, together with the *toga praetexta* (p. 328), on the attainment of manhood. This ceremony usually took place in the seventeenth year, at the festival of the Liberalia (March 17), when the young Roman went to the Capitol and made offerings to Juventas and to Jupiter Capitolinus.

The ceremonies of marriage in historical times had lost (for the majority of Romans) much of their religious significance. The ancient rite of *confarreatio* or 'communion in spelt', at which the presence of the *pontifex maximus* and *flamen Dialis* was essential, was practised only by patricians, and rarely even by them, since the dissolution of the tie was encumbered with difficulties. It was necessary for the *rex sacrorum* and greater *flamines* to be the offspring of such a marriage, and this fact alone preserved the rite from falling into disuse. We know little of its details. Bride and bridegroom, with covered heads, sat on chairs joined together and covered with lambskin, made offerings of 'fruits and salted meal' to Jupiter 'with water and fire', and partook of the 'cake of spelt' which gave its name to the ceremony. The ordinary form of Roman marriage was *coemptio* or 'marriage by purchase', which, being a contract rather than a sacrament, made divorce easy. The ceremony, however, had its religious side, for of the three coins (*asses*) brought by the bride to her husband's house, one was offered to the *Lar familiaris* and one to the *Lares compitales*, while the third was given to the bridegroom as the symbol of the dowry. The *numina* who presided over each step in the process—Domiduca, who led the bride to her new home, Unxia, who anointed her, and so forth—came to be regarded as titles of Juno. After the symbolical 'joining of hands' (shown on Pl. XLIV), it was the custom to sacrifice a victim to Jupiter. The bride's costume (the details of which are not minutely rendered on the sarcophagus reproduced) was the *tunica recta* (the meaning of the term is disputed), girt with a woollen girdle (*cingulum*) tied in a special way (*nodus Herculeus*), as a talisman against ill-luck, and the *flammeum* or red veil covering

Mansell & Co.

Dextrarum iunctio (from a sarcophagus in the British Museum).

the head. Her hair was parted into the six locks (*sex crines*) worn by the Vestals (cf. p. 282) by a comb like a spear with a curved end (*hasta caelibaris*). After the ceremony the bride was escorted to her new house (*deductio*), and songs, whose character may be gathered from the Epithalamium of Manlius and Vinia by Catullus, were sung.

It is noteworthy that the long list of *numina* which presided over each stage in a Roman's life includes none which assisted him in his last hour. The religious element in the ceremony of burial or cremation consisted in the purification of the survivors from the contaminating influences of death. This was done by the offering of a sow (*porca praesentanea*) to Ceres, as the goddess of the earth to which the dead returned, by the sweeping out of refuse from the house (*exverrae*), by a sacrifice to the Lares, and by the rite of *suffitio*, in which the members of the household were sprinkled with water and stepped over fire. The dying were laid upon the ground (*depositi*) and a loud wail (*conclamatio*) was raised by those present at the moment of death ; afterwards the body was laid out by *pollinctores*, slaves furnished by the undertaker (*libitinarius*), on a couch (*lectus funebris*) placed in the *atrium*. Such a lying-in-state is shown at the top of Pl. XXXIV, but in this, as in so many Roman grave-reliefs, the dead is represented as though alive. On the day of burial a procession was formed which, if the dead person was of sufficient importance, made its way to the *forum*, where the *laudatio* or funeral oration was delivered. Such a procession is shown on a relief found on the site of the Sabine town of Amiternum (Pl. XLV). The *lectus funebris*, upon which lies the body of some local magnate (represented as if alive), in front of a large decorated screen, is borne on a litter by eight slaves marshalled by the undertaker's manager (*dissignator*). In front of it walk the musicians—four flute-players (*tibicines*), two horn-blowers (*cornicines*), and one player on the *lituus*—and two professional mourners (*praeficae*), and the family walk behind.

The body was generally cremated at an *ustrinum* or burning-place, though the primitive practice of inhumation (cf. p. 184 f.) was never wholly given up—it was retained, for example, by the *gens Cornelia* until Sulla's time, and became once more common in the second century A. D.—and the ashes were then laid in the family tomb or *columbarium* (cf. p. 188). A funeral feast (*silicernium*) was held immediately after the burial ; a holiday was kept (called *feriae denicales*), and on the ninth day, which closed the period of mourning, the *sacrificium novendiale* was offered to the Manes of the dead, and a solemn meal (*cena novendialis*) took place. Funeral games (*ludi novendiales*) were sometimes celebrated in honour of distinguished Romans (cf. p. 353).

Not only the family, but also the group of families known as the *gens*, bound together by the tie of common descent, real or supposed, had its religious ceremonies, which occupied a place midway between private and public worship. We know very

Relief from Amiternum with funeral procession.

little of these, except in those cases where the State adopted a private cult but left the performance of its rites to the priests of the *gens*. The most famous example of this is the worship of Hercules at the Ara Maxima in the Forum Boarium (p. 30), which was in the hands of the ancient patrician *gentes* of the Potitii and Pinarii. The former of these became extinct, as the Romans believed, as a punishment for having transferred the performance of the rite to public slaves. The Luperci (see below, p. 281) were organized in two colleges, named Quinctiales and Fabiani, which clearly shows that their worship was originally carried on by the Quinctii and Fabii. Amongst the Gentile cults which never obtained State recognition were those of Minerva, practised by the Nautii, and of Veiovis, a divinity of the underworld, carried on by the Julii. In general, the State insisted on the maintenance of the Gentile *sacra*, lest the favour of the god whom each worshipped should be lost to the community. Thus the inheritance of property entailed the obligation to perform the *sacra* of the *gens* to which the owner had belonged; and a change of *gens* (by adoption or marriage) was beset with legal formalities for the same reason.

§ 3. Public Worship.

The clearest evidence which we possess as to the nature of the Roman State-worship in early times is that which we derive from the calendar. All the extant calendars (of which there are some thirty in stone, including small fragments, and two in MS.) belong to the Empire, and therefore give the *Fasti* (to use the Roman name) as revised by Julius Caesar. But the skeleton of the calendar—including the numbers of the days, the signs by which it was indicated whether the day was one on which public business or legal proceedings could lawfully be transacted or not, and the names of the ancient festivals—is easily distinguished from later additions, since it is inscribed in capital letters. We are thus able to construct a list of festivals which are evidently those of an agricultural community, or, as it would be truer to say, of an expanded agricultural household, as well as of the divinities worshipped in early times by the State and its priests. The organized worship revealed by the calendar was called by the Romans 'the religion of Numa', since they attributed to that king the redaction of the calendar, and the gods of this religion were known as the *di indigetes*. Before considering them, however, in detail, it will be well to show how the Roman festivals mark the stages of the farmer's year.

The first month of the old year was March, *mensis Martius*, or 'the month of Mars'. To us his most familiar aspect is that of the war-god, of whom we shall treat presently; but there is good reason for thinking that Mars was in origin something more than a war-god—the quickening spirit of spring, whose power is exerted

not only upon vegetation, but also upon men and animals. The very rites performed on March 1 by his 'dancing priests' (p. 284) have their analogies in Greece and in many primitive communities, which prove them to have been intended to promote the growth of the crops. In the middle of the month there were horse-races (*Equirria*), and on the Ides—i. e. the first full moon of the year—was held the popular festival of the goddess Anna Perenna, whose name indicates 'the circle of the year', though she gathered about her an accretion of legend and myth in later times. The 17th was sacred to Liber, an old Italian deity afterwards identified with Dionysus, and therefore perhaps to be regarded as the productive spirit of the vine. The festivals of April are chiefly concerned with the protection of the growing crops from harm. At the *Fordicidia* (April 18) pregnant cows were sacrificed, and the ashes of the unburnt calves stored for use as a fertility-charm. On the 19th was the festival of Ceres, the earth-goddess, afterwards identified with Demeter; at this feast lighted firebrands were fastened to the tails of foxes, which were let loose in the Circus Maximus—a magical process which has hitherto found no convincing explanation. The *Robigalia*, celebrated on the 25th, were held in honour of the god of Mildew (*Robigus*), to whom a red dog was offered in sacrifice. The most important festival of the month was, however, the *Parilia* (April 21) in honour of Pales, the shepherd's divinity, when the flocks and herds were solemnly purified, and men and women leapt through blazing bonfires. In the city—where the day was counted as the birthday of Rome—the ashes of the *Fordicidia* (see above) and the blood of the 'October horse' (p. 280) were consumed in the fire lighted on the Palatine, which was *par excellence* the 'hill of Pales'. Other ceremonies of the month were the *Vinalia* (on the 23rd), when the wine-skins of the previous vintage were opened, and the *Floralia* (on the 28th) at which an ancient *numen* of the reproductive power was worshipped.

We have already mentioned the rites of the *Lemuria* (May 9, 11, 13), the object of which was the aversion of hostile spirits. Amongst the purely agricultural festivals of the month two are specially interesting. On the 15th a number of straw puppets, called *Argei*, were solemnly cast into the Tiber from the *pons sublicius* by the Vestal Virgins in the presence of the chief dignitaries of Church and State. The name is hard to explain; the Romans derived it from the Greek Ἀργεῖοι, and some modern scholars, following them, suppose the ceremony to be of late introduction. But it seems rather to be a primitive dramatic rite intended as a rain-charm for the benefit of the growing crops. Towards the close of the month came the *Ambarvalia*, a 'beating of the bounds' which was performed on behalf of the Roman State by the Arval brotherhood (p. 285); litanies were recited, and the pig, sheep, and ox (*suovetaurilia*, see p. 292) were sacrificed.

The ceremonies of June and July are less intimately connected

with the processes of husbandry. The central festival of June was the *Vestalia*. For eight days the 'storehouse of Vesta' was thrown open, and on the last day (the 15th) the temple and sacred hearth were swept out and the refuse thrown into the Tiber. This ceremonial cleansing of house and hearth thus preceded the ingathering of harvest. Of the July festivals we can say nothing with certainty. Amongst the deities in whose honour they were held we note Neptunus (July 23) and Furrina (July 25), the former of whom was ultimately equated with Poseidon, while the latter (as we can infer from recent discoveries in her grove on the Janiculum) was a spring nymph: it may be, therefore, that the divinities of the watery element were propitiated in time of drought.

With August we return to the life of the farm. The housing of the newly gathered harvest is celebrated on the festivals of Consus (on the 21st) and Ops Consiva (on the 25th), a pair of divinities whose titles are derived from *condere*, 'to store'. The scene of the first rite was an underground pit in the Circus, that of the second the Regia. In this month we also find the festivals of Portunus, who is most naturally interpreted as the *numen* of the harbour, but may also have been that of the locked doors of the storehouse; of Volcanus, the fire-god, whose wrath must be averted from the corn in the granaries; and also of Volturnus, seemingly the god of the Tiber.

September is almost a blank in the calendar, for it was a time of comparative rest for the farmer. October was the vintage-month, and its chief festival is that of the Meditrinalia (on the 11th) when the wine of the old vintage and the must of the new were tasted. A more interesting ceremony, however, is that of the 'October horse' on the 15th; there was a chariot race in the Campus Martius, and the near horse of the winning pair was sacrificed to Mars, and the blood which dripped from its tail preserved as a charm. The analogy of similar rites among primitive peoples shows that this was a final harvest-festival in which the sacrificed horse represented the corn-spirit. Here, again, the agricultural side of the worship of Mars is discernible, though overlaid with the conception of the god as a deity of war and the war-horse.

November is a blank in the ancient calendar—ploughing and sowing occupied the farmer's time; but in December, when these operations were over, there were several festivals—the *Saturnalia* (Dec. 17), from which many of our Christmas customs are derived, the winter festivals of Consus and Ops (see above), and the rustic rites of the *Faunalia* (not named in the city calendar), in honour of the woodland spirits or Fauni. In January, again, were celebrated the *Compitalia*, in which the Lares were invoked at the cross-roads, and the *Paganalia*, at which the inhabitants of the *pagi* (p. 15) made offerings to the spirits of the earth on behalf of the seed lately sown. We may also notice the *Carmentalia* (Jan. 11 and 15), celebrated in honour of Carmenta, an ancient goddess

of child-birth. Finally, we find in February, besides the *Parentalia* described above (p. 272), the strange festival of the *Lupercalia*, in which two companies of Luperci, clad in the skins of slain goats, smeared with blood, and brandishing strips of hide, ran round the Palatine Hill, striking the women whom they met to procure their fertility. The ceremonial is evidently composite, and combines the notions of communion with the slain animals, purification, 'beating of the bounds', and magical fertilization. The year closed with the festivals of Quirinus (Feb. 17), of Terminus, the god of boundaries (Feb. 23), and the *Regifugium* or 'flight of the king' on Feb. 24. The Romans of historical times interpreted this rite, which consisted in the flight of the *rex sacrorum* from the *Comitium* after offering a sacrifice, with reference to the expulsion of the Tarquins; but we find instances of the same ritual at Athens and elsewhere, and it has been variously explained as a relic of totemism, or of the slaying of the vegetation-spirit in animal form at the close of the old year.

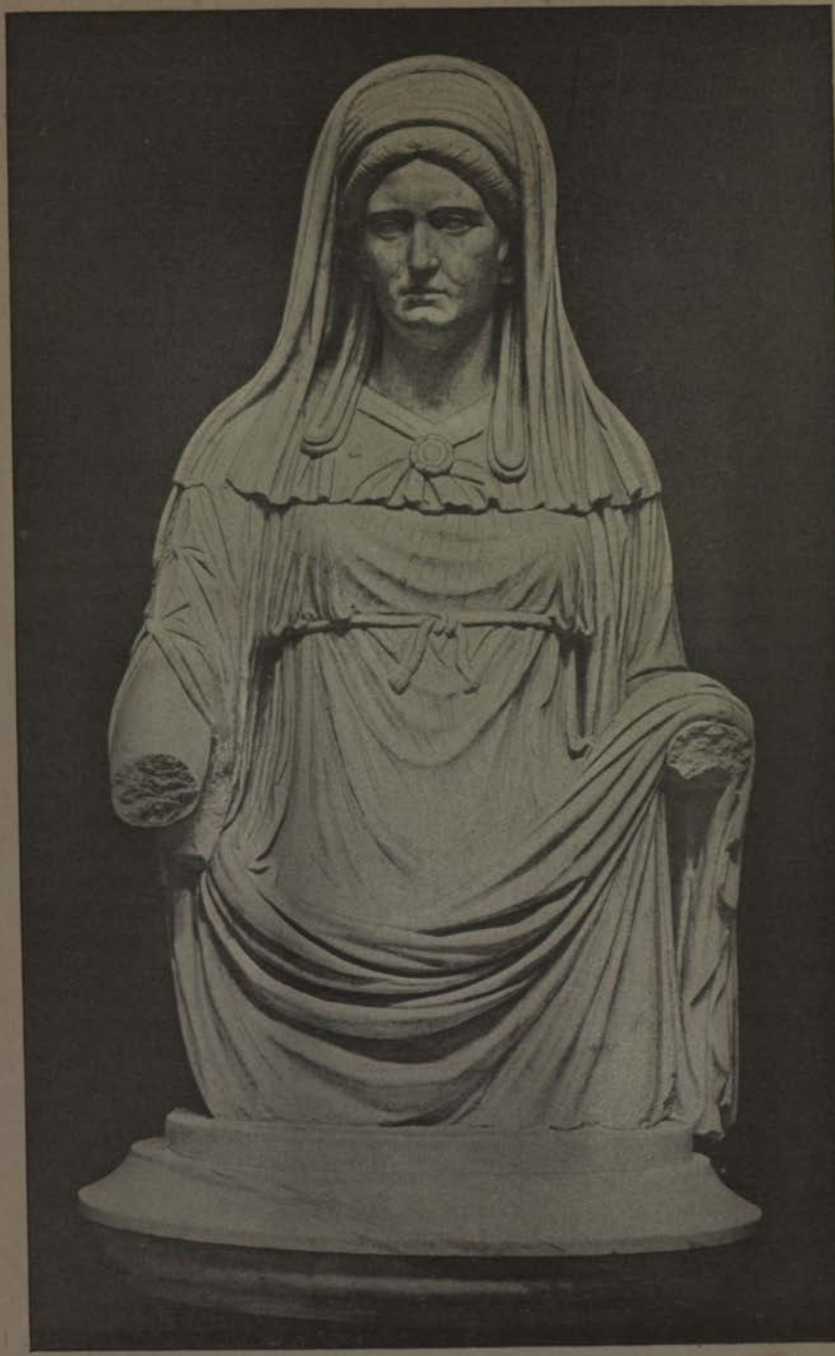
When we review the sacred year of early Rome, we cannot fail to notice that in many of its festivals the deities worshipped are obscure or nameless, and that the centre of interest is in ritual, the very meaning of which was but imperfectly grasped. This fact illustrates the conservatism of Roman religion, in which survivals of primitive agricultural magic are embedded. Let us now turn to the ecclesiastical order of Rome, and see how it reflects that of the household. It must be supposed that in early times the king fulfilled these functions in the State-household which belonged to the *paterfamilias*; and the *rex sacrorum*, who took his place, enjoyed a formal precedence over the other members of the hierarchy, though he was not, as we shall see, the chief official of the State-religion. Next to him came the most important of the priests attached to the worship of special divinities. These were the *flamines* or 'kindlers', of whom there were fifteen in all. The twelve 'lesser *flamines*' (of whom we only know the titles of ten) were concerned with the cult of ancient and often obscure divinities such as Furrina or Carmenta; the three 'greater *flamines*' were those of Jupiter, Mars, and Quirinus. The first-named was hedged about with a number of taboos which must have rendered existence irksome, and account for the fact that the priesthood remained vacant from 87 B. C. to 11 B. C. His wife, the *flaminica* (whom he was obliged to wed by the rite of *confarreatio* and might not divorce), was subject to other restrictions. The costume of the *flamines* is well illustrated by the slab from the Ara Pacis Augustae shown on Pl. LXIV A, where the first two figures in the procession are distinguished by the mode of wearing the toga, with a broad fold hanging in front of the body and over the arms, the closely-fitting cap or *albogalerus* crowned with the *apex*, a spike of olive-wood, and the wand (*commetaculum*) carried in the hand. In the State-household of the monarchy the sons no doubt served as *flamines*, while the daughters are represented by the six *Virgines*

Vestales of historical times. Their duties comprised much more than the tending of the sacred hearth. In nearly all the agricultural ceremonies of the calendar they play their part. They had charge of the powerful 'medicine' formed by the ashes of the unborn calves slain at the *Fordicidia* and the tail of the 'October horse', which they burnt at the *Parilia*. In May they made the *mola salsa*, a sacrificial cake, from the first ears of the new corn, which was used at the *Vestalia* in June, and finished at the *Lupercalia* in February, and took part in the ceremony of the *Argei*. Every process which they performed was a survival of primitive habit; the vessels which they used were of antique simplicity, they might drink no water but that which they fetched from a sacred spring; and if the sacred fire were accidentally extinguished, it could only be rekindled with fire-sticks. On Pl. XLVI is shown the upper part of a statue found in their cloister (Map 5), and dating from the latter part of the second century A. D., which is the portrait of a senior Vestal (*virgo Vestalis maxima*) and illustrates their costume. The head-dress consists in the *infula*, a woollen band wound several times round the head (the 'six locks' of the traditional hair-dress are not seen), with hanging on the shoulders (*vittae*), and over it the *suffibulum*, a square piece of white cloth with a purple border, fastened on the breast with a brooch (*fibula*). We hear that the Vestals wore the *toga*, but this statue is draped with tunic and mantle.

The Vestals, who served for thirty years, of which they spent ten in learning their duties, ten in practising them, and ten in teaching them, were placed under the *patria potestas*, not of the *rex sacrorum* (as might seem logical) but of the *pontifex maximus*, who, together with the other pontifices, the greater *flamines*, and the *rex sacrorum*, made up the supreme college of the Roman hierarchy. On the relief already mentioned (Pl. LXIV A) the figure following the *flamines*, wearing the *toga* drawn over his head, is doubtless a representative of the college of *pontifices*, though not the *pontifex maximus*, since Lepidus, who held that office in 12 B.C., was a prisoner in exile. The *pontifex* has no distinctive dress, but appears *velato capite* according to rule: while the attendant who precedes him carries the *secena* or sacrificial axe. This is not the place to discuss the origin of the *pontifices* nor the derivation of the name—it seems to contain the word *pons*, but whether in the literal sense of bridge or in that of 'platform' (such as those of the *terremare*) or 'tribunal' cannot be determined. Tradition ascribed the creation of the college to Numa, and they were certainly the depositaries of the traditions embodied in the 'religion of Numa' as defined above, and therefore had the ordering of the calendar. They are to be held responsible for the stereotyped formalism of the pure Roman religion.

Beside the supreme college, there were other ancient priesthoods at Rome, of which we must say a few words.

As the supreme war-god of Rome, Mars was worshipped by the



Statue of Vestal Virgin.

'dancing priests' or Salii, who were doubtless instituted in the primitive period, preceding the union of the Palatine and Quirinal cities, since there were two colleges bearing the name—the Salii Palatini and Salii Collini. The latter college, it is true, worshipped Quirinus; but there is every reason to think that this divinity was in reality the war-god of the Quirinal settlers: the Roman antiquarians themselves clearly recognized his affinity with Mars, and endeavoured to distinguish him from the god of battles as the divinity of armed peace. Like the *flamines*, the Salii wore the *apex* and *trabea*; but the chief interest of their equipment lies in the armour which they used in their ritual. We have no special knowledge of the 'spears of Mars' which were preserved in a shrine in the Regia, whose foundations may possibly be traced at the present day; but the *ancilia*, or shields believed to have fallen from heaven, which were also preserved in the Regia, are represented on gems and coins, and the testimony of ancient writers agrees with these monuments. Two gems, one of which bears an inscription in the Etruscan alphabet and possibly in the Etruscan language, represent two men, who on one of the gems are fully armed, carrying a long pole on their shoulders from which are suspended a row of shields closely resembling those of the Mycenaean age in shape, i. e. a long oval with both sides drawn in towards the centre. The coins of L. Licinius Stolo (about 17 B. C.) and of Antoninus Pius, which undoubtedly represent the *ancilia*, show a slightly different and more decorative type of shield, in which the upper and lower segments are connected by a kind of oval boss: it is not unlikely that the original shields may have been destroyed in one of the fires which consumed the Regia (it was burnt in 210, 148, and 36 B. C.), and replaced by more ornamental objects. That the *ancilia* were carried on long poles, to which they were attached by straps, is stated or implied by Dionysius of Halicarnassus and Juvenal. The chief functions of the Salii were performed at the beginning and end of the campaigning season, i. e. in March and October. On the 1st of March the *ancilia* were brought forth and carried in procession, as also on the 9th and 23rd, while they were solemnly purified in the *Comitium* on the 19th. On the 14th was the festival of 'Mamurius', a mysterious figure whose name occurs in the almost unintelligible fragments of the Carmen Saliare, recited by the Salii, and appears to be a title of Mars himself. There is some authority for the statement that a man clad in skins was driven out of the city with peeled rods on this occasion, and the rite has been compared with the Slavonic custom of 'expelling death' at the beginning of a New Year. On October 19 the Salii again brought forth the *ancilia* (as on March 19), and the *Armilustrium*, or purification of arms, took place before they were laid by for the winter.

Equally ancient was the college of augurs, the creation of which was ascribed by tradition to Romulus. Although the name is

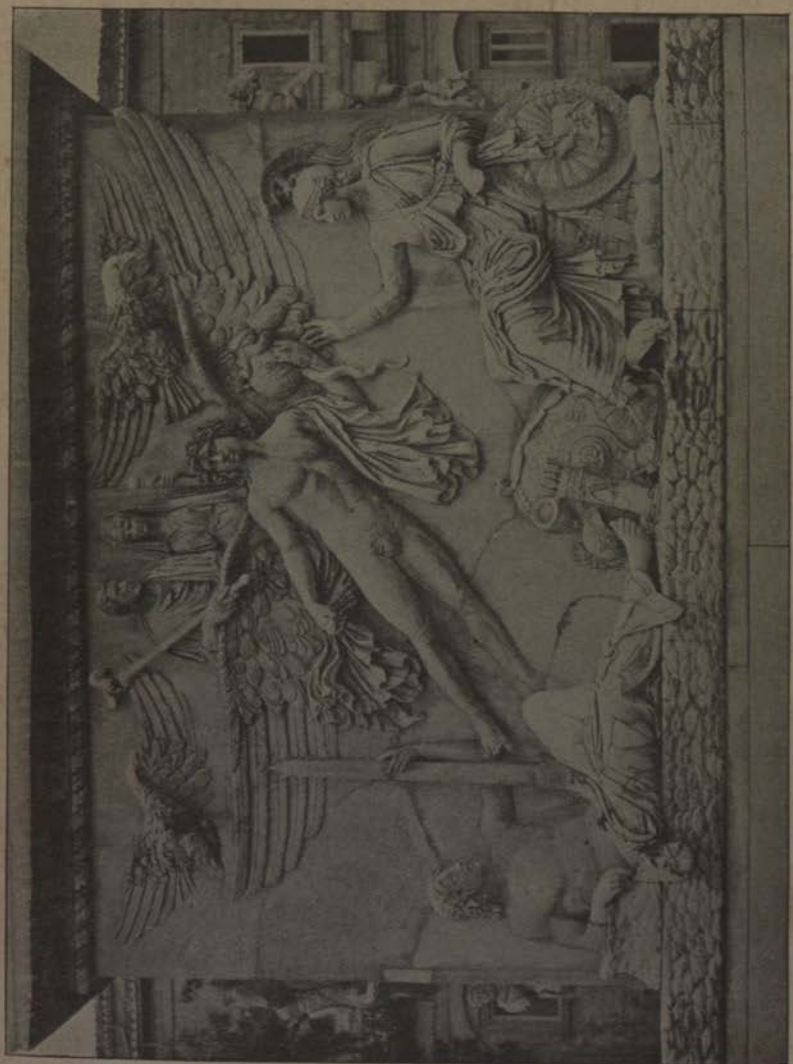
connected with *avis*, the methods of divination which they practised were not confined to the flight of birds; the most important *auspicia*, or omens, were those *ex caelo*, and consisted in the various signs given by thunder and lightning; these were, in fact, the only tokens of the divine will sought for within the city in later historical times. The *auspicia ex tripudiis*, derived from the feeding of chickens, were those commonly used in military expeditions. The science of divination practised by the augurs is often spoken of as Etruscan in origin; but this is very doubtful. The Etruscans preferred to draw omens from the entrails of sacrificed victims—we possess a bronze liver with Etruscan characters engraved upon it, found at Placentia—and this form of divination was practised by *haruspices*, who were never officially recognized at Rome until the time of Claudius. Augury, on the other hand, seems to have been common to the Italic peoples. Throughout Roman history no public transaction took place without previous consultation of the auspices, with the object, not of ascertaining future events, but of securing an expression of divine approval before taking definite action. In later days this practice was turned to political ends, since the mere *report* of an unfavourable omen by any qualified person sufficed to suspend public business, and no inquiry into its truth was permissible; thus was forged a powerful engine of obstruction. In order to take the auspices, the augur marked out a foursquare space of sky called a *templum*, and beneath it pitched a tent (*tabernaculum*) which was also called a *templum*—unless he were performing his functions in a place such as the Curia (p. 99), which had been permanently consecrated to such purposes. In marking out the *templum* he used a curved wand or *lituus*, which was the distinctive symbol of his office. We see it in the hand of Tiberius on the Grand Camée (Pl. LXXVII).

The other ancient priesthoods need not be discussed at length. We are especially well-informed as to the *Fratres Arvales*, or 'brotherhood of the fields', since a considerable portion of their archives have been discovered in the grove which was the scene of their worship, some five miles from Rome on the Via Campana. It would seem that the college (which numbered twelve members) had ceased to exist at the close of the Republic, and was revived by Augustus. It carried on the cult of the Dea Dia, an earth-goddess whose festival took place in May, though not always on the same date. Under the Empire the Arval brothers also offered sacrifice on anniversaries or other solemn occasions connected with the Imperial house, and the documents relating to such offerings have great historical value. A hymn sung by the brotherhood is preserved on one of the inscriptions (dating from the third century A.D.), and (though but partly intelligible) is addressed to Mars and the Lares. The *sodales Titii*, also 'restored' by Augustus, are a mere name to us. They worshipped the spirit of the Sabine king, Titus Tatius, and are chiefly of interest

as supplying a model for the colleges instituted to carry on the worship of deified emperors.

A far more important part in the development of Roman religion was played by the keepers of the Sibylline books. According to the familiar story, these books were offered by the Sibyl to one of the Tarquins, and in the end purchased by him and stored in the temple of Jupiter Capitolinus. The legend is significant. The 'religion of Numa' knew neither temples nor statues of the gods, and these were all indigenous to Italy and worshipped according to primitive Italian custom. Under the Etruscan dynasty of the Tarquins the great temple of Jupiter, Juno, and Minerva was built upon the Capitol. Two of these divinities—Jupiter and Juno—belong to the 'religion of Numa'; but the third, Minerva, is not among the *di indigetes*. She is numbered among the *di novensides* or 'new-comers', of whom an increasing number were henceforward recognized in the Roman State-worship. The 'triad' is of Etruscan origin, as is the form of the temple (Fig. 12, p. 85); but the direct influence of Etruria is of less importance than that which is traceable to Greece, whence the Etruscans had already borrowed largely. The old religion was in the hands of the patricians; the new was created to satisfy the aspirations of classes hitherto unprivileged, and it is to be observed that the dedication of the Capitoline temple is assigned to the first year of the Republic. Henceforth we find not only a stream of new divinities admitted to the unified city, many of which are Greek, but an ever-growing tendency to identify the primitive gods of Rome with figures of the Greek Pantheon, and a gradual transformation of the old Italian ritual in accordance with Greek practice. Thus the 'Greek rite' (see below) was used in the worship of Saturn, whose temple (containing a statue of the god) was built in 496 B.C.; within a few years temples were built in honour of Mercurius, identified with the Greek Hermes, of Ceres, Liber, and Libera, who represent Demeter, Dionysos, and Kore, and of Diana, who took on the form of Artemis; and in 431 B.C. Apollo himself had his shrine in the Campus Martius. The keepers of the Sibylline books stood in a special relation to Apollo, as the giver of oracles, and their emblems were the laurel-branch and tripod. But they exercised a general supervision over foreign cults adopted by the Romans, and their influence on the later developments of the State-worship must have been great. They were originally two in number—*duoviri sacris faciundis*—but in 367 B.C. the number was increased to ten, and at a later time (probably by Sulla) to fifteen (*quindecimviri s. f.*), which was never formally exceeded, although supernumerary members of the college were often appointed under the Empire.

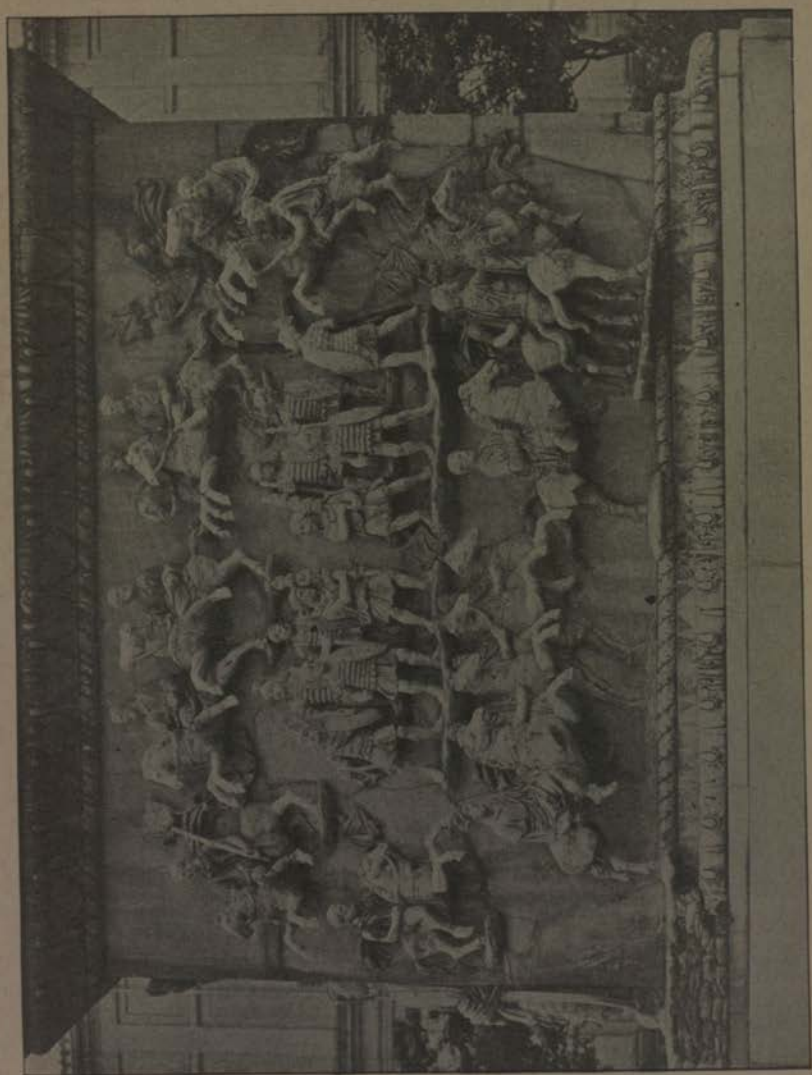
It will be seen that the action of the *quindecimviri* was entirely different from, and even opposed to, that of the *pontifices* and *augures*, who were concerned with maintaining the purity of the Roman religion; but we can scarcely trace any conscious opposi-



Consecratio of Antoninus Pius and Faustina.

tion of the two forces, although Mr. Warde Fowler has given reasons for thinking that the *pontifices* were specially active in the third century B.C., when the cult of various old Italian deities, such as Consus and Pales, and of personified abstractions which recall the shadowy figures of the *indigitamenta* (p. 268) was promoted by the foundation of temples. The disasters of the second Punic War put an end to this reaction; even the gods of Greece no longer sufficed for the Romans in their hour of need; and the introduction (in 204 B.C.) of the worship of Cybele, the Great Mother of Mount Ida, represented by the fetish-stone brought from Pessinus, is the first sign which heralds the influx of Oriental cults into Rome. This worship was under the control of the *quindecimviri*. From this period dates the decay of the old Roman religion—and indeed of the State-religion in all its forms—and the growth of popular cults, which aroused an enthusiasm in the individual such as formalistic worship could never excite. These are dealt with in the following section. The ancient priesthoods fell into contempt, and their rites into disuse; and had it not been for the antiquarian revival brought about by Augustus, we should know much less than we do of the old Roman religion.

The chief addition to the State-worship made in Imperial times was the cult of the emperors. It is important to distinguish the different forms which this took. In the Graeco-Oriental world the deification of living rulers was a well-established practice, and the adulation lavished by the later Greeks on Roman commanders often took this shape. Thus Flamininus was worshipped in Greece together with the goddess 'Roma', herself a creation of the Greek spirit, and in the same way the cult of 'Roma and Augustus' was introduced at Pergamum in 29 B.C. and became the model for other provincial centres. Soon, however, the goddess of Rome ceased to receive honour, and worship was paid to Augustus alone, and later to the *diui Imperatores*, or emperors who had received the honour of apotheosis or *consecratio* at the hands of the Senate. From this provincial worship—which was carried on both by the *concilia* representing whole provinces, and by municipal bodies—we must carefully distinguish the State cult of the emperors in Rome. Here the worship of living persons was rigidly excluded. Julius Caesar was 'enrolled in the number of the gods' by a vote of the Senate and people in 42 B.C., and a *flamen Iulianus* (who probably ranked with the greater *flamines*) was appointed to carry on his worship; the 'temple of the divine Julius' was not dedicated till 29 B.C. On the death of Augustus the same honours were paid to him; but, more than this, a college of *sodales Augustales* was instituted, which is expressly designated as a 'priesthood of the Julian *gens*', and included amongst its original members Tiberius, Drusus, Claudius, and Germanicus. On this analogy *sodales Flaviales* were created for the worship of Vespasian and the other deified members of the Flavian house, and the precedent was followed in the second century A.D. The *sodales Antoniniani* (created in A.D. 161)



Decursio

were, however, the last 'gentile' college of this kind. Not only emperors, but other members of their families, especially their wives, attained the honour of *consecratio*. The ceremony of apotheosis often—though not always—coincided with the funeral of the emperor. The base of the Column of Antoninus Pius, two sides of which are shown on Pls. XLVII and XLVIII, illustrates this. On the front we have an ideal representation of the apotheosis of Antoninus Pius and his consort Faustina, who are borne heavenwards by a youthful winged figure carrying in his left hand a celestial globe encircled by a snake (the symbol of eternity) and decorated with a zodiac and moon which indicate the date. The spectators are (to the right) Roma seated beside a pile of arms, and (to the left) a youthful figure supporting an obelisk in his left hand. He represents the Campus Martius, and the obelisk is that set up by Augustus as the *gnomon* of his great sundial; it was discovered in 1480 and now stands in the piazza of Monte Citorio. The *Ustrinum*, or burning-place, of the Antonine house, was near this obelisk, and the two eagles which accompany Antoninus and Faustina remind us of those which were allowed to escape from the funeral pyre of a deified emperor as a symbol of his 'consecration'. The other scene (Pl. XLVIII) is the *decursio*, or parade of the household troops, who marched in solemn procession round the funeral pyre of their dead leader, which is not here represented. The custom was a very ancient one—we find it in the *Iliad*, where the Myrmidons ride thrice round the pyre of Patroclus; and Tacitus records that Germanicus and his legions performed the rite in honour of Drusus, whose altar had been overthrown by the Germans.

It remains to give some account of Roman ritual. Ancient writers draw a distinction between *ritus Romanus* and *ritus Graecus*, and there is no doubt that the ceremonies in which the 'Greek rite' was used were those introduced by the *quindecimviri* (see above). It is hard to discover in what the difference consisted, so far as the ritual of sacrifice is concerned, except that the Roman custom was for the priest to cover his head with the *toga*, while the Greek made his offering *aperto capite*. In a wider sense, however, we may include under the 'Greek rite' such ceremonies as were foreign to the primitive Roman spirit, which disdained the services of the artist and musician. Amongst the most characteristic of these were the *lectisternia*, first introduced in 399 B.C. by the keepers of the Sibylline books. Figures of the gods—in this instance of the Greek triad Apollo, Artemis, and Leto, together with Hercules, Mercurius, and Neptunus—were placed in pairs upon couches (*pulvinaria*), and a sacred feast was set before them. It is true that the custom of offering a meal to the gods was, as we have seen, part of the domestic worship of the Romans; but the externals of the rite (e.g. the recumbent posture [1]) were Greek, and

[1] The Romans sat at meals; and in Imperial times the statues of female goddesses were placed on thrones; this was called a *sellisternium*.

Tensa.

the custom was derived from the στρωμναὶ κλινῶν which we find at Athens, Delphi, and elsewhere. The *lectisternium* formed an important part of the ceremony of *supplicatio*, which was decreed either in thanksgiving for a victory or as an act of humiliation in time of distress. This, again, was often ordained by the keepers of the Sibylline books on account of prodigies or portents. The prostration of the worshippers before the gods to whom the *supplicatio* was addressed, and the adjuncts of the ceremony—such as processions of singing maidens—which became more elaborate as time went on, betoken its un-Roman character.

To the same influence we may trace the constant growth of the *ludi*, or public games, which were in origin religious ceremonies. We have seen that horse-races took place in connexion with the festivals of the ancient calendar; but these were much less elaborate than the *ludi* of later institution. We shall have to deal with them in greater detail under the head of Amusements: here it will suffice to say that they were preceded by a solemn procession, the name of which (*pompa*) is Greek, and the introduction of which is attributed to the Etruscan kings, who acted as transmitters of Greek influence. In this procession the images of the gods were carried in *tensae* or *thensae* (the derivation of the name is unknown), which seem to have reproduced the form of the war-chariot or *currus* (p. 194). On Pl. XLIX are shown the remains of such a chariot, discovered in a family tomb in the Roman Campagna. We cannot indeed be sure that it served this special purpose; but it certainly gives an idea of the form and decoration of the *tensa*. The bronze plaques (which are fragmentary) have been mounted on a modern body of wood, and the original number of wheels is not quite certain. On coins and reliefs the *tensa* is generally two-wheeled, and is closed sometimes in front, sometimes behind. It was a visible sign of the deification of Julius Caesar when his statue was thus carried in the *pompa* during his lifetime.

The ritual of sacrifice is well illustrated by sculptured monuments. In the 'Roman rite' the sacrificing priest drew the *toga* over his head, and in cases where the *cinctus Gabinus* was prescribed by tradition, wound the extremity tightly round his waist in the fashion of a girdle. The choice of a victim was governed by an elaborate code of traditional rules. The general principle was that a male animal was offered to a male divinity and a female to a female; moreover, white victims were sacrificed to the powers of the sky, black to those of the underworld, red to those of fire, and pregnant kine (*fordae boves*) to the earth-goddess.

The most solemn and complete offering was that of the *suovetaurilia*, which consisted in the pig, sheep, and ox. It was made, as Cato tells us, by the farmer at the *Ambarvalia* (p. 279), and on behalf of the Roman State in ceremonies of purification, such as the *lustratio* of the citizen body at the time of the census, or of the army before a campaign. The relief shown on Pl. L, which probably dates from the early Flavian period, illustrates the rite.

Suovetaurilia.

PLATE L

The victims have their heads wreathed with woollen fillets (*infulae*), while the body of the ox is encircled by a broad band or *vitta*. Beside them are the *victimarii*, one of whom carries the sacrificial axe (*securis*). The group on the right illustrates the bloodless offerings which preceded the slaying of the victim. On the altars we see the cakes and fruits of the earth, which are the natural offering of the tiller of the soil. The priest is sprinkling a few grains of the incense taken from the box (*acerra*) held by his attendant, and behind him is the *camillus*, holding the jug of wine in his left hand and doubtless also the bowl (*patera*) in his right; the offering of wine and incense regularly preceded the *immolatio*. For this we may compare the scene of Trajan's sacrifice at the Bridge over the Danube (Pl. XIII), where the *tibicen* accompanies the act on the double pipe according to ancient Roman custom. The *camillus* who holds the *acerra* has his hair dressed in the fashion of the ladies of the Flavian court—a fashion which survived in this connexion throughout the reign of Trajan. The slaying of the victim is shown on the silver bowl from Bosco Reale (Pl. LXXVIII B); the attendant who wields the axe is the *popa*. Here (as on Trajan's Column) we see the *victimarii* girt about the waist with bared breast. The implements used in sacrifice are represented on the cornice of the Temple of Vespasian (Pl. VII). We see the axe and knife—this latter is doubtless that of the kind called *secespita*, used by the *flamines* and members of other ancient priestly colleges, since the *apex* (p. 281) is also shown—the jug and bowl, the ladle (*simpulum*) and sprinkler (*aspergillum*). The skulls of the oxen are bound with *infulae*. In ordinary sacrifices the entrails (*exta*) of the victim were examined by the *haruspex* (p. 285) in order to discover the will of the gods, and then burnt; the flesh was eaten. Sin-offerings (*piacula*) were either burnt whole or consumed by the priests, but there was no examination of the *exta*.

§ 4. Religious Associations.

It has already been explained (p. 288) that from the close of the Hannibalic War onwards the ancient religion of Rome was undermined by the growth of popular cults. These were carried on by private associations—even when they were adopted by the State, this remained the rule—and these groups furnished the model for the Christian ἐκκλησίαι which became the type of organization for the universal religion of the West. From the earliest times there had existed in Rome semi-private associations for the worship of divinities recognized by the State. Such, for instance, was the guild of merchants (*collegium mercatorum*) instituted for the service of Mercurius in 495 B.C. The most important were the *collegia compitalicia* formed for the celebration of the *Ludi compitales* and the worship of the Lares of the cross-roads (p. 269); but their importance is historical and not religious, since under the late Republic they became political clubs organ-

ized for the purposes of bribery and disorder at elections. The same process overtook many of the *sodalitates* or 'Confraternities' which seem to have had their roots in 'gentile' worship (p. 278), and they were suppressed by decree of the Senate in 64 B. C., only to be restored by Clodius in 58 B. C. All such associations, which pursued political ends under the cloak of religion, were dissolved under the Empire.

The earliest of the foreign cults to establish itself in Rome was that of Cybele, the Great Mother of the Gods, whose fetish, a meteoric stone, was brought from Pessinus in Galatia in 204 B. C., and deposited in the temple of Victory, on the slope of the Palatine, until a shrine should be built for its reception. The temple of the Great Mother was dedicated in 191 B. C., and the *Ludi Megalenses* or 'games of the Great Mother' (μεγάλη μήτηρ), celebrated on April 4–10, became one of the most popular festivals in the calendar. Though the worship of Cybele thus became a State-cult, it retained its exotic character. The *galli*, or eunuch-priests of the goddess, were at first of Phrygian origin, and although by the close of the Republican era Roman citizens were admitted to their ranks, these were mainly freedmen. The *archigallus* or high-priest is represented on a relief in the Palazzo dei Conservatori, which shows us all the symbols of the cult. The effeminate priest wears a diadem adorned with medallions of Zeus and Attis, and earrings and fillets. From his neck hangs a small *aedicula* with a bust of Attis. He holds in his right hand a pomegranate and in his left a bowl of fruits; on his left shoulder rests the knotted scourge for self-chastisement, and we also see the cymbals, flute, and mystical chest (*cista*). The *galli* marched in procession through the streets of Rome, singing Greek hymns in honour of Cybele, and collecting money. But there was another side to the worship of the Great Mother. When it was introduced into Rome *sodalitates* were formed, whose members partook of banquets at the time of the *Ludi Megalenses*; and gradually the legend of Cybele and Attis took hold of the popular imagination, while for the cultured it was made the symbol of a pantheistic philosophy of nature. Under the early Empire it was dramatized, and the spring festival, which had hitherto consisted in the ceremonial washing of the image of the goddess in the brook Almo on March 27, was extended by a series of celebrations beginning with the 'Entry of the Reed' on March 15 and continuing with the 'Entry of the Tree' on March 22, the 'Day of Blood' on the 24th, the 'Rejoicing' on the 25th, and the 'Day of Rest' on the 26th. We now hear of fresh *collegia*, the *cannophori* or 'bearers of the reed' and *dendrophori* or 'bearers of the tree'. The 'reeds' represented those which grew by the river Gallus, where Attis was exposed; the 'tree' was the pine beneath which he offered the sacrifice of his manhood. These *collegia* served other purposes beside those of religion. The *cannophori* were a burial-club, as were the greater number of the religious

corporations formed under the Empire; the *dendrophori* were a guild of timber-merchants who, together with the members of the building trades, formed fire-brigades in the municipalities of the West.[1] The spring festival in the first instance symbolized the death and resurrection of external nature; but to the Romans of the Empire the doctrine of human immortality was of deeper interest, and to its promise in this respect was due the popularity of the cult, and especially of its crowning sacrament, the *taurobolium* or baptism of blood, in which the initiate descended into a trench, and having been bathed in the life-giving stream which flowed from the body of a slaughtered bull, arose 'new-born to eternal life' (*renatus in aeternum*). We first hear of this rite in the West in the second century A. D., and being very costly, it was sometimes performed at the public expense, especially when it took place 'for the safety' of the reigning emperor.

A more popular worship was that of Isis, which was not established in Rome without a severe struggle. This was a very different thing from the ancient Egyptian religion, and represented a fusion of Greek mysticism with native legend which took place at Alexandria under the earlier Ptolemies, and soon won its way to Greece and Italy. Puteoli, the port through which the trade of Alexandria passed on its way to Rome, had a temple of Serapis —a new divinity compounded of Osiris and Apis—at least as early as 105 B. C.; and there can be no doubt that the cult of the Egyptian divinities had been long established in Rome when Sulla recognized the guild of *pastophori*, who bore in procession small shrines containing images of the goddess. The conservative government of the dying Republic did its best to stamp out the new worship, which it considered subversive of morality. In 58 B. C. an altar of Isis on the Capitol was destroyed by order of the consuls, and similar measures were taken three times in the ten years which followed, but so great was the popularity of Isis-worship that in 43 B. C. the Triumvirs resolved to build a temple to the goddess at the public expense. It is doubtful, however, whether a State-cult was established, and the victory of Augustus over Antony gave a set-back to the spread of Egyptian cults. A rule was laid down that foreign cults should not be practised within the *pomerium*, but it was almost impossible to enforce it against private places of worship. Tiberius, in A. D. 19, destroyed a temple of Isis and caused her image to be thrown into the Tiber in consequence of a serious scandal; but there was a sanctuary of the goddess on the Capitol in A. D. 69, and under the Flavian emperors State-temples of Isis and Serapis were built in the Campus Martius (cf. Map 3). Many monuments either of Egyptian origin or at least in imitative Egyptian style have been found on

[1] There has been discovered at Rome (on the Caelian) a hall used by the college of *dendrophori* of the Great Mother; it was called the Basilica Hilariana. From such halls, no doubt, the Christian basilica (p. 107) took its name.

the site of the *Iseum Campense*, and Domitian, who had escaped from his pursuers in the storm of the Capitol by disguising himself in the dress of a priest of Isis, rebuilt her temple in 92 B. C. on a magnificent scale. Henceforth the triumph of Egyptian religion was assured. Its appeal was based mainly on the explicit promise of a glorious immortality which it offered to its adherents; but this appeal was strongly reinforced by the fascination of an elaborate ritual and symbolism. The public festivals of Isis took place in November and March. The first of these was the *Heuresis*, which commemorated the finding of the dismembered body of Osiris and his restoration to life; the last day (like one of those in the festival of the Great Mother) bore the name *Hilaria*. The spring festival, which celebrated the reopening of traffic by sea after the winter months (p. 49), was the *Isidis navigium* on March 5, when a ship laden with spices was solemnly launched and allowed to float out to sea. But the daily ritual of morning and evening prayer was of greater importance. What we know of it is chiefly derived from Apuleius, who was initiated into the mysteries of Isis at Rome in the reign of Antoninus Pius. Before daybreak the priest entered the temple and threw back the doors, in front of which linen curtains were hung. The court was then thrown open, and a crowd of worshippers streamed in and assembled in front of the temple, when the curtains were drawn and the image of the goddess exposed. The service closed with an invocation of the risen sun. The afternoon service is illustrated by a wall-painting found at Herculaneum, which shows the priest standing in front of the doorway of the temple, holding in the folds of his garment a vessel of Nile water, which is venerated by groups of worshippers on either side of the flight of steps leading up to the temple. Their chant is accompanied by the rattle (σείστρον) and flute. Another painting shows a votary or priest dancing before a crowd of worshippers. The mark of the Isiac devotee was the shaven head and the long robe of linen (καλάσιρις); we shall see that among Roman portrait-busts are a number which may perhaps represent the shaven priests, branded with a cross upon the brow (p. 381). The temple of Isis at Pompeii, rebuilt after A. D. 63, but probably founded 150 years earlier, has just such a flight of steps in front as we see in the wall-painting described above; and in the court is a building usually called the *Purgatorium* or 'Hall of Purification'. It contained the dwelling-rooms of the priests, a tank for the holy water of the Nile, and also a series of chambers in which, no doubt, votaries were initiated into the Isiac mysteries. Apuleius's account of these ceremonies is naturally very vague. All that we can say is that the death and resurrection of the worshipper were in some way simulated, and that he 'saw the gods face to face'. These would, of course, be the gods of the Graeco-Egyptian pantheon, i. e. Isis herself, Osiris, the dog-headed Anubis, lord of the realms of the dead, and the hybrid creations of Alexandrian speculation, Serapis and Harpocrates, i. e.

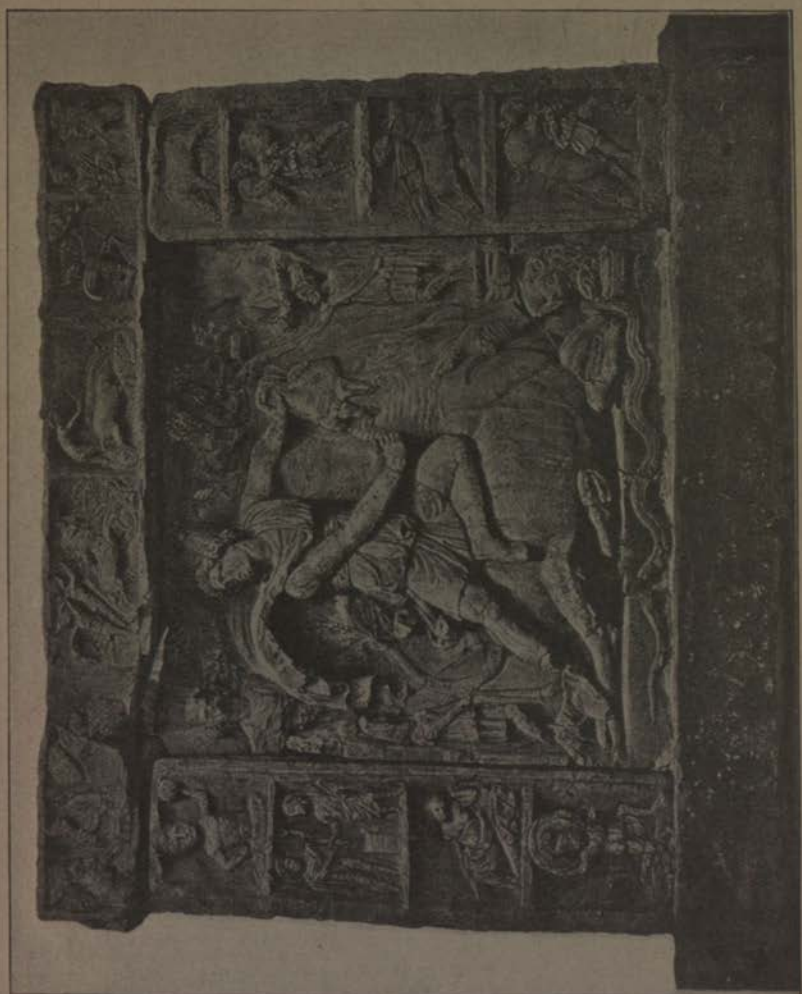
'the child Horus', son of Isis and Osiris, who was converted by a misinterpretation of the gesture which distinguished him in Egyptian art into a god of silence, presiding over the mysteries.

The worship of Isis owed much of its popularity to the fact that women were freely admitted to its mystic rites and found in the Universal Mother of nature and mourner for her son Osiris a type of motherhood. For men, and especially for soldiers, it had less attraction than a creed which braced its worshippers for a victorious struggle with the powers of darkness. This was the religion of Mithras.

Mithraism was the Western representative of the dualistic religion of the Persians, whose sacred books are preserved in the Avesta. In this system Mithras was the god of the celestial light which is seen not merely in the sunshine, but in the dawn and the afterglow. In the eternal struggle between Ahura-mazda (Ormazd) and the powers of evil, Mithras was the unwearied and unconquerable leader of the armies of light, as well as the god of truth and justice. This religion was profoundly modified (after the conquest of Babylon by Cyrus) by Chaldaean speculation, and especially by astrology; hence there were introduced into its pantheon the heavenly bodies, the signs of the Zodiac, the seasons, the winds, and the elements. After the death of Alexander it gained greatly in popularity through the patronage of the dynasties which sprang, notably in Asia Minor, from the ruins of his empire. The doctrine of the *Hvareno*, an aureole of light which descended from Mithras upon the head of legitimate kings, was attractive to these mushroom dynasts. In Asia Minor, too, the symbolical theology of Mithraism took final shape, and though its ritual remained Persian to the last,[1] it was enriched by a cycle of artistic types which were purely Hellenistic. The chief of these was the sacrifice of the bull by Mithras,[2] who is always represented as a youth with flowing hair, wearing a Phrygian cap and dressed in a tunic, mantle, and trousers; the origin of this *motif* is to be sought in the group of Victory slaying an ox from the balustrade of the temple of Athena Nike on the Acropolis of Athens. The two torch-bearers, Cautes and Cautopates, who generally appear on either side of the central piece, also lent themselves to treatment as ideal types. It was more difficult for the Hellenistic artist to give plastic form to the fantastic figures of Persian mythology who followed in Mithras's train. Chief amongst these was Zervan (Gk. Kronos), the personification of Infinite Time, usually represented as a nude figure of human form with a lion's head and four wings, holding a key and thunderbolt and enwrapped with a serpent whose head sometimes enters at the mouth. Besides these types, the Mithraic bas-reliefs often have a framework of minor scenes illustrating the legend of Mithras or the doctrines of his cult. The example

[1] The liturgy was translated into Greek, and perhaps at a later time into Latin.

[2] The central group on Pl. LI.



Mithraic relief from Neuenheim.

shown on Pl. LI was found at Neuenheim, near Heidelberg, in 1828. The interpretation of its details is not always certain; but besides the main group, which shows the slaying of the bull by Mithras and the ears of wheat springing from his blood, the busts of sun and moon, and the torch-bearers, we have in the upper border the winds, sun, and moon in their chariots, and two scenes in which Mithras shoots an arrow into a rock and thence draws water to assuage the thirst of the world, and in the vertical borders scenes (amongst others) from the life of the god—his birth from the rock, and his pursuit and capture of the bull, which he carries to the cave of sacrifice. The second scene from the top on the left shows Zervan (Kronos) handing to Ahura-mazda (Zeus) the sceptre of the world.

These monuments, from which the greater part of our knowledge of Mithraism is derived, served to decorate the Mithraea, or chapels dedicated to the service of Mithras, which have been discovered in almost every part of the Roman Empire. Their distribution leads to certain definite conclusions as to the date and method of the dissemination of the Mithraic religion. Plutarch tells us that the Romans first became acquainted with this cult through their war against the Cilician pirates (*circ.* 102 B. C.). But there is no trace of the worship at Rome until the Flavian period; and the reason is that until the Armenian War under Nero and the annexation of the protected states on the Euphrates frontier by Vespasian, and the raising of several auxiliary corps in the same region which followed, there was little direct intercourse between Rome and the Eastern home of Mithraism.

The earliest Mithraic monument found in Rome is a bilingual inscription set up by a freedman of the Flavians, which may, however, be as late as Trajan's reign. Meanwhile the cult was rapidly diffused by the army; for the religion of Mithras was congenial to the temperament of the soldier, since it called upon the individual to take part in a warfare of eternal significance. Thus the Fifteenth Legion, transferred by Vespasian from the East to Carnuntum (Petronell on the Danube), brought with it the worship of Mithras, which at once struck root in the Danube provinces; again, Mithraic monuments cluster thickly on the lines of frontier defence, such as the *Limes Germaniae et Raetiae* and the Wall of Hadrian in Britain, which were largely garrisoned by Asiatic auxiliaries.[1] Mithraism was of course also propagated by peaceful means. When Trajan filled the newly-annexed province of Dacia with colonists drawn from the whole Empire, the Eastern provinces furnished a large contingent, and the worship of Mithras which they brought with them achieved a remarkable success; the whole of Roman Dacia is filled with its monuments. We also find, as we might expect, traces of Mithraism in the seaports of the Western Mediterranean, especially those regularly visited by

[1] On the other hand, there are few traces of Mithraism in Spain and Western Gaul.

Eastern traders; we may mention Ostia and Puteoli, Aquileia and the Dalmatian ports, Carthage and the harbour-towns of North Africa. Traders, too, introduced Mithraism into Gaul, where it was established at Arles and made its way up the Rhone valley.

Mithraism owed its success largely to the fact that it admitted all social classes—especially the humblest—to its mysteries; in this way it became a formidable rival to Christianity. Its sanctuaries were called *speluca* ('caverns'), as representing the scene of Mithras's sacrifice of the bull, and if not actual grottoes, were generally subterranean chambers. In these 'caverns' the relief of the bull-slaying Mithras usually faced the entrance; where there were statues, they stood either beside it or (as at Heddenheim) in niches in the centre of the building.

The worshippers of Mithras passed through several grades of initiation into his mysteries; the lowest was that of the 'raven' (*corax*), then followed the 'occult' (κρύφιος), the 'soldier' (*miles*), and the 'lion' (*leo*). This was the highest degree attained by the ordinary Mithraist; a recently discovered inscription from Carthage has shown that it was accessible to woman (*lea*), but such a distinction must have been rare, and Cumont has acutely remarked that in this respect Mithraism was at a disadvantage as compared with Christianity. The higher grades were those of the 'Persian' (*Persa*), the 'Runner of the Sun' (ἡλιοδρόμος), and the 'Father' (*pater*); the head of the congregation was the 'Father of Fathers' (*pater patrum*). The Mithraea which have been discovered are small in size, and could hardly have held a congregation of more than 100 members; hence we often find several in one place. We have no trustworthy information as to the ceremonies of initiation; the rite of the *taurobolium* was certainly practised by the worshippers of Mithras, but, as we saw (p. 296), it more properly belongs to the cult of Magna Mater.

The first emperor to be initiated into the rites of Mithraism was Commodus, and from this time it enjoyed increased popularity and a large measure of Imperial favour. This was due to its close alliance with the 'Solar pantheism' which proved so attractive to the third-century emperors, notably Aurelian. Mithras, who was properly distinct from the sun, was confused by the Romans with 'Sol invictus'. In A. D. 307 Diocletian and his co-regents dedicated a temple to Mithras, *fautori imperii sui*, at the Conference of Carnuntum. Constantine tolerated Mithraism, but the Christian emperors who succeeded him viewed it with ever-increasing hostility, and after Julian's failure to restore Paganism, it was actively persecuted in many parts of the Empire and soon died out, in spite of the efforts of the Pagan clique in the Roman Senate to revive it.

The worships already described were the most widely-spread of those introduced into Rome from the Hellenized East. Of the other Oriental religions it will suffice to name the cult of the Semitic solar deities, or Baalim, which seems to have made its way

to the capital of the Empire in the first century A. D. These Baalim were in origin the local gods of Syrian towns ; but though they retained their local names and symbols, they were generally classed under the heading of *Iuppiter Optimus Maximus*, which laid emphasis on the fact that they also had a universal significance. They are spoken of as 'eternal' and 'most high', like the God of the Jews ; and by presenting to their votaries a lofty ideal of the godhead they made some converts. The local divinities of Palmyra are represented on an altar, probably of the latter part of the first century, now in the Capitoline Museum ; and they had a sanctuary outside the Porta Portuensis. But such congregations must have been at first chiefly composed of non-Romans who met for the practice of their native cults. Sun-worship, however, became increasingly popular at Rome in the second and third centuries A. D. The sun-god of Emesa in Syria—*Deus Sol invictus Elagabalus*—was exalted above the older gods of Rome by the emperor who, as his priest, was identified with the object of his worship ; and in spite of the disgust inspired by the excesses of the boy-priest, an impulse was given to the spread of a kind of 'Solar pantheism' which embraced by a process of syncretism the various Oriental religions and was made the chief worship of the State by Aurelian. For these the private religious associations had prepared the way.

A word must be said as to the burial-clubs (*collegia funeraticia*) which were organized under the form of religious associations. After the dissolution of political clubs under the Empire (p. 293 f.), the law against associations for illicit purposes was strictly enforced, and all 'colleges' had to conform to the regulations made by decree of the Senate ; this is expressed in their article of association (*lex collegii*) by the phrase *quibus ex Senatus consulto coire licet*. Our knowledge of their working is mainly derived from inscriptions such as that found at Lanuvium and dated in A. D. 136, which gives the statute of the 'college of Diana and Antinous'. This was in reality a burial-club for the poorer classes, and the decree of the Senate which it recites permitted such *collegia* to meet once a month in order to receive contributions. No doubt, however, there were other meetings for purposes of worship, and in this way the stringent provisions of the law were to some extent evaded. Moreover, wealthy patrons made donations, often considerable in amount, to such *collegia tenuiorum*, the proceeds of which were distributed in money or kind on festal occasions, anniversaries, &c. Thus at Rome there was a 'college of Aesculapius and Hygieia', whose meeting-place was on the Appian Way. An inscription of A. D. 153 shows that large benefactions were made to this society by a brother and sister (P. Aelius Zeno and Salvia Marcellina) in memory of the lady's husband. The interest of the sums given was to be used in providing food and wine on certain festivals, as well as grants of money. Strict conditions were laid down by the donors as to the acquisition of membership

in the college. The law of the 'college of Diana and Antinous' shows that its main object was to provide decent burial for its members, who were evidently drawn from the humbler classes and included slaves. They paid an entrance-fee of 100 sesterces and a flagon of wine, and a monthly subscription of 5 *asses*. A grant of 300 sesterces was made to the heir of each member who died, and of this 50 sesterces were to be paid to those present at his funeral. It is evident that such *collegia* were religious in name rather than in fact, although that of Aesculapius and Hygieia had its temple and statue, bestowed upon it by the lady named above.

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CHAPTER V

PRODUCTION AND DISTRIBUTION

§ 1. Agriculture.

Throughout the early history of the Roman Republic agriculture was the chief occupation of the citizen in time of peace, and the only source of livelihood which the ruling class regarded as honourable; and although this sentiment was undermined and practically nullified by the opening-up of short cuts to wealth which followed the conquests of the later Republic, it retained sufficient strength to inspire the treatises on husbandry which have come down to us, and the greatest didactic poem ever written—the *Georgics* of Vergil. Archaeology can do little to assist us in recovering the details of Italian country life, though it can afford us some glimpses of the management of the great provincial estates, such as the *saltus* of North Africa; and we have to depend mainly on the ancient writers. Nor do these throw much light on the early history of Roman husbandry. It has been argued that the ownership of land was at first vested in the *gens* or the tribe, since the *heredium* of the Roman citizen was only two *iugera* (the *iugerum* being about five-eighths of an acre), and this would not suffice for the maintenance of a household; but in Roman history, so far as it is known to us, we have to deal not with commoners enjoying customary rights in undivided land, but with small farmers tenacious of their ownership and clamouring for 'individual allotments' (*agri viritim adsignati*). It is not, however, of such cultivators that the Roman writers on agriculture speak to us. To them agricultural land is simply a form of investment for capital, to be rendered as productive as possible by the employment of slave labour or by contract with speculators to whom the harvesting of the crops was farmed out. Thus the treatise of Cato the Elder (*circ.* 150 B.C.) *de agri cultura*, so strangely concise and disjointed in form that it has been thought to be either a series of extracts from a larger work, or the jottings of its author's notebook, is simply a collection of 'hints for investors' who are seeking to place their capital profitably in the purchase of *fundi*, or agricultural estates. A century later, the encyclopaedist Varro dedicates his dialogue *de re rustica* to his wife Fundania, who has recently bought landed property; but what he gives us is a digest of the standard writings on capitalistic agriculture, the chief of which, compiled by Mago the Carthaginian for the use of the great landowners of Carthage, had been translated into Latin by order of the Senate. Lastly, Columella, writing about the middle of the first century A.D., assumes a much larger

area for the single estate than either of his predecessors, and thus deals explicitly with capitalistic agriculture.

The main branches of rural economy are two—agriculture proper, or the tillage of the soil for the purpose of raising crops, and the management of stock. Each of these has its subdivisions; the raising of cereals, fodder, or leguminous crops is one thing, the cultivation of fruit trees, especially the vine and olive, is quite another, and the pasturing of sheep and oxen is wholly different from the management of farmyard stock. The relative importance of these branches of husbandry varied in different periods of history, for economic reasons; more especially, the cultivation of cereals in Italy gradually gave place to that of the olive and vine, and to extensive grazing of cattle. It is a mistake, however, to attribute these changes directly or principally to the competition of imported corn, as many modern writers have done. The transport of grain by land, especially in the mountainous Italian peninsula, was difficult and expensive in ancient times; and when the rapid growth of Rome raised the problem of feeding a large and ever-increasing urban population, it was necessary to look overseas for the needful supply of corn, although the price of wheat in the valley of the Po was, as Polybius tells us, only 4 obols (about 5½*d.*) for a μέδιμνος (1½ bushels). But the growth of capitalism did what foreign competition was powerless to do. Seeking the highest possible return for its investment, it found it in those branches of husbandry which involved the largest initial outlay, the most expensive plant, and the greatest independence of temporary fluctuations in price, such as the production of wine and oil; or again, in the utilization of the less-favoured soils for the pasture of large herds of cattle. All this tended to drive the small independent yeoman-farmer to the wall; and yet, in spite of the outcry raised against the *latifundia* by Pliny and others, who trace to them the 'ruin of Italy', there is good evidence from the literature and inscriptions of the early Empire that the small holding was far from extinct in A. D. 100 and later. We know so little, however, of its working that we can only describe the *fundus* of the capitalistic landowner as Cato and Varro picture it.

Cato writes for the *paterfamilias* who has bought a farm (*villa*), and entrusted the management thereof to a *villicus* or slave-steward; and he makes it clear that corn is to be grown for consumption, not for profit; only the surplus product is to be sold. He gives a list of crops in their order of merit as income-producers: the vineyard comes first, then the irrigated vegetable garden, next the osier-bed, and fourthly, the oliveyard; meadow ranks fifth and corn-land only sixth, followed by woodland—timber-trees, the copse (*arbustum*) and the oak-forest (*silva glandaria*), which produced acorns for the feeding of swine. The region which he has in mind seems to be Campania, since he recommends the purchase of an olive-press at Suessa or Pompeii; and we may therefore take as typical the oliveyard of 240 *iugera*

(150 acres), and the vineyard of 100 *iugera* (a little over 60 acres), for which his calculations are made. His principle is to employ the least possible number of permanent hands, and to farm out the harvesting of the crops—even the operations carried on between seed-time and harvest—to a contractor. The *villica*, or wife of the *villicus*, is the only female slave in his establishment; and while the vineyard needs ten farm labourers (*operarii*), an ox-herd, a donkey driver, a swineherd, and a keeper of the osier-bed (*salictarius*)—sixteen souls in all with the bailiff and his wife—the oliveyard is tilled by even fewer hands—five labourers, three ox-herds, one donkey driver, one swineherd, and one shepherd. Naturally the ingathering of the fruits was beyond the powers of so small a *familia*; and Cato gives us examples of the *leges* or contracts made with a *redemptor*, whose part it was to furnish the necessary labour. Thus the *lex olcae legendae* provides that fifty *leguli* (pickers) and *strictores* (beaters) shall be employed and paid by the contractor; again, if the manufacture of the oil was farmed out, the *factores* were furnished by the *redemptor*. Sometimes the crop was sold 'hanging' (*pendens*), i.e. on the trees; and the same with the vintage. Again, we have a form of contract for winter fodder, beginning from the first of September and ending 'when the pear-tree flowers', in a dry meadow, and 'when the neighbours above and below permit', in a water-meadow, and another 'for the produce of the sheep'—lambs, wool, and cheese. Moreover, we hear of the *partiarius* or *métayer*, and the *politor*, whose contract obliged him to perform all necessary operations on the land sown by the owner in return for a payment in kind which varied from one-sixth to one-eighth of the yield, according to Cato, in the local practice of Campania. The labourers employed by these contractors were probably not, as has often been thought, slaves but freemen: the grandfather of Vespasian, we are told, made his living by hiring out the services of such gangs in the Sabine country. Varro, too, advises the farmer 'when labour is dear', to let the cattle graze on the cornfields after harvest instead of gleaning, and to employ free rather than slave labour in unhealthy situations!

The corn-crops raised by the Romans were known generally as *frumenta*; but the term was often used in the restricted sense of 'wheat.' Of this two kinds were grown, *triticum*, which we may safely identify with the 'winter-wheat' of modern times, and *far*, or spelt. In primitive times *far* was the only grain cultivated in Italy, and as such was always used in religious ceremonies—e.g. in the rite of *confarreatio* (p. 274), and for the cakes (*adorea liba*—*semen adoreum* being the name of the grain) offered in sacrifice. Its chaff adhered so firmly to the grain that it could not be removed by ordinary threshing, and it was therefore pounded (*pinsere*) in a mortar before being made into the porridge (*puls*) which was the staple food of the early Roman. Hence the term *pistor* came to be used for 'baker', and was applied in later times

even to the maker of fine pastry. *Far* was more hardy than *triticum*, and therefore succeeded both in the higher and more exposed districts, and also in damp or stiff and clayey soil; while *triticum* was sown in dry soils. *Siligo* is the name given to a variety of *triticum*, and also to the finest flour prepared from that species, while *pollen* is used of the best spelt-flour. Of the other cereal grasses, it is only necessary to notice barley (*hordeum*), which (except in early times) was little grown for human consumption, except by slaves and gladiators—under the later Empire it was given to soldiers instead of wheat as a punishment—and millet (*panicum* or *milium*), which was chiefly grown in Campania; oats (*avena*) are unsuitable to a Mediterranean climate, and were only sown for green fodder. Other forage crops were lucerne (*medica*), which was much used for fattening stock, veitches (*vicia*), and tares (*ervum*). *Farrago* was a general word for green fodder; *ocinum* was also used, according to Pliny, but apparently restricted to beans, &c., cut before the pods were formed. The various species of peas and beans were largely cultivated, the lupine being especially popular; but root-crops were not very commonly raised except in Cisalpine Gaul, where turnip (*rapum*), and rape (*napus*) were used as winter food for cattle. Flax (*linum*) was regarded as an exhausting crop, though it yielded large profits; and hemp (*cannabis*) was likewise unsuitable except for very rich soils.

The Romans were acquainted with the principle of rotation of crops, but the more common practice was to let corn land lie fallow every other year, as Varro prefers and Vergil prescribes in the *Georgics*. This was not, however, necessary in rich soils, upon which crops were raised for two successive seasons, followed by a year's fallow; such land was called *ager restibilis*. Or again, the poorer soils might be rendered capable of continuous cropping by manuring (*stercoratio*); the Roman writers on agriculture devote much space to this subject. Nothing, it seems, was wasted on a well-conducted farm. Weeds, hedge-clippings, &c., were either burnt on the fields in order that their ashes might mingle with the soil, or used to swell the dungheap; sheep were penned in a field which was destined to be sown with corn; various kinds of marl (*marga*) were used as top-dressing; and leguminous crops (chiefly beans and lupines) were ploughed in before reaching maturity. By such means the fertile soil of Campania was made to yield a succession of crops—one of millet followed by two of spelt. In less-favoured regions one corn crop was followed by two of vegetables.

Where a summer fallow was allowed to precede a crop of corn, the first ploughing (*proscissio*) took place in early spring; the land was then called *vervactum*. There was a second ploughing (*iteratio*) at midsummer, a third (*tertiatio*) at the beginning of September, and a fourth at the autumnal equinox, called *liratio*, since ribs (*lirae*) were formed for the reception of the seed by the use of mould-boards (*aures*) on either side of the ploughshare (*vomer*). This

was made of iron and formed a sheath for the share-beam (*dentale*), which was attached to a curved beam (*buris*) worked by a handle (*stiva*): into it fitted the shaft (*temo*), which carried the yoke (*iugum*). Columella allows two days for the first ploughing of a *iugerum*, one for the second, three-quarters of a day for the third, and one-quarter of a day for the *liratio*. After ploughing came harrowing (*occatio*), usually with hurdles (*crates*) fitted with teeth (*dentatae*), but sometimes with a board studded with spikes (*irpex*) when the land was infested with weeds. It was considered a sign of bad farming when a second harrowing was necessary after the crop was sown. Seed-time began at the autumnal equinox, but Vergil recommends the farmer, before sowing wheat, to await the morning setting of the Pleiades (November 6). Spring wheat (*triticum trimestre*), barley, and millet were sown about the time of the vernal equinox, and Vergil advises the sowing of beans in the spring; but leguminous crops were generally autumn-sown except in North Italy. The earth was loosened by hoeing (*saritio*) with the *sarculum*, which process was twice repeated, and was followed by weeding (*runcatio*). Corn was usually reaped before it was dead ripe, either with the sickle (*falx*) or (as in Picenum) with a saw (*serrula*) fastened to a crooked handle of wood, which removed the ears and left the straw standing for future mowing. It was then taken to the threshing-floor (*area*), and either beaten with flails (*perticae*) or threshed with a board studded with nails or sharp stones (*tribulum, trahea*) or a 'Punic wagon' (*plaustellum Punicum*) consisting of toothed rollers. If the wind was not strong enough to carry away the chaff when the grain was tossed with the shovel (*pala*), a wicker basket (*vannus*) was used for winnowing.

It has been mentioned above that corn-growing in Italy was largely abandoned in favour of the cultivation of fruit-trees, notably the vine and the olive, so that Varro can speak of Italy as *arboribus consita, ut tota pomarium videatur*. The olive was first known in Italy, according to Fenestella, an author of the later Augustan age quoted by Pliny, 'in the time of Tarquinius Priscus'. Its seeds have, indeed, been found in the *terremare* (p. 6), but they are those of a wild variety, and the cultivation of the oil-producing *olea Europaea* was introduced by Greek colonists. The Roman writers distinguish several varieties, of which the *Pausia* and *Regia* were the largest and the best for eating, while the best oil was produced from the *Licinia*, which grew in the district of Venafrum[1], and the largest yield was obtained from the *Sergia*, which was grown in the Sabine country. The olive does not flourish in extreme temperatures, and was therefore planted on

[1] Pliny tells us that the oil of Venafrum was the finest in the world, and that next to the produce of Italy came those of Istria and Baetica. In the south-east regions of Italy, which are the most productive at the present day, the culture of the olive was introduced at an early date; Cato mentions the *olea Sallentina* grown in the modern Terra d'Otranto.

northerly or southerly slopes according as the climate was hot or cold. It was usually propagated by sets (*taleae*), cut from older trees and tapered to a point, or root-cuttings; grafting and budding were also practised. At the end of five years the young trees were transferred from the nursery (*seminarium*) to the oliveyard (*oletum*), where they were planted in rows, at least 25 feet and often much more being allowed each way for the growth of the tree. The rest of the land was cropped in alternate years; and the olive-trees themselves required little attention except at the roots, which were cleaned and pruned yearly. The crop was gathered in December; opinions differed as to the stage of maturity which the fruit should have reached, but it was seldom allowed to become fully ripe; the oil made from half-ripe olives was called *oleum viride*. The olives were subjected to a double process in the manufacture of oil. In order to separate the pulp (*sampsa*) from the kernel, they were placed in the *trapetum*, which consisted in a circular basin of stone (*mortarium*) in the centre of which was a column (*miliarium*) round which the hemispherical crushing-stones (*orbes*) revolved; these were worked by poles (*modioli*) which passed through their centres and were attached to an iron pivot (*columella*) fixed to the *miliarium* and enclosed in a box (*cupa*) which kept the stones apart.[1] The pulp when thus separated was crushed in the oil-press (*torcular*) in order to express the oil; it was placed in a basket (*fiscina*) covered with a board (*orbis*) which was forced down by a press-beam (*prelum*—sometimes used to describe the whole machine). The *prelum* was in early times worked by a windlass (*sucula*) with rope and pulley, but according to Pliny this was superseded in the Augustan period by a screw-press; at Bosco Reale, however (p. 172), the old system was in use. From the press the oil ran into a cistern (*lacus*), where it was caught in a leaden vessel (*cortina*) and ladled out into a succession of vats (*labra*) till all impurities (*faeces*), especially the *amurca*, or watery fluid first expressed from the fruit, had been removed. It was then stored in large earthenware jars (*dolia*) kept in the *cella olearia*. The manufacture of oil on a large scale was carried on in the building whose remains are represented on Pl. LII (at Bir-Sgaoun, about 22 miles south of Theveste), which bears witness to the importance of this industry in North Africa. It is constructed partly of ashlar masonry, partly of rubble (which has crumbled away) with ashlar framework, and is about 25 metres square. Along one of the sides are placed six large oil-presses; the rest of the building is a large hall divided into three aisles by rows of massive pillars supporting arcades.

The culture of the vine (which in its wild state was known to the inhabitants of the *terremare*, cf. p. 6) may have been introduced into Italy before the arrival of the Greek colonists, who

[1] The stone portions of a *trapetum* were found in the *villa rustica* at Bosco Reale (cf. p. 172), and the machine has been restored in the Naples Museum.

gave the name Oenotria to the southern part of the peninsula; but the law ascribed to Numa—*vino rogum ne respargito*—implies that it was rare and costly in primitive times.[1] The early calendar, however (p. 278 ff.), takes account of the vintage in the Meditrinalia and the opening of the wineskins in the Vinalia. For several centuries vine-culture made but slow progress in Italy; even in 280 B.C. Cineas, the ambassador of Pyrrhus, sneered at the sour wine of the Alban Hills. The wines of Greece and the Archipelago—especially those of Cos, Chios, Lesbos, Rhodes, and Samos—held the field until the last century of the Republic, and Cato gives more than one recipe for the manufacture of 'Greek wine'. He places the vineyard first, however, as a source of profit to the agriculturist; and in 129 B.C. we hear of protective measures on behalf of the Italian vine-grower, whose market in Gaul was threatened by the planting of vineyards in the Transalpine provinces; fresh plantations of the vine and olive were now forbidden. The 'Consulship of Opimius', 121 B.C., is a well-known landmark in the history of vine-growing in Italy; but Pliny remarks that so little were the Italian vintages then differentiated that *all* wine of that year was known as *vinum Opimianum*, and that foreign wines were still preferred. The famous 'Falernian' is first heard of under Caesar, who at his triumphal *cena* assigned to each table an *amphora* (about 6 gallons) of the Italian product and a *cadus* (about 9 gallons) of Chian. Under the Empire the pre-eminence of the wines of Campania and Latium was firmly established, and they were exported to the East, even to India. *Setinum*, grown at Setia in the Volscian Hills, was the favourite drink at the Court of Augustus. Columella selects for special mention 'Massic' and 'Surrentine' amongst the Campanian wines, 'Alban' and 'Caecuban[2]' amongst those of Latium; Pliny tells us that of eighty well-known brands two-thirds were Italian. At the present time the vine occupies twice as much of the cultivated soil of Italy as the olive, but as an article of export oil is far more important; in ancient times the proportion may have been about the same, but wine was the chief article of export. Columella quotes an estimate of the profits of vine-growing, based on a vineyard of seven *iugera* (nearly $4\frac{1}{2}$ acres), which allows somewhat more than six per cent. on the original outlay; but this assumes the produce of the *iugerum* to be only one *culleus* of 20 *amphorae* (=120 gallons), whereas Columella considers that three times as much should be produced, and there is evidence for a yield of seven, eight or ten *cullei* to the *iugerum* in favoured spots.

The vine was propagated by cuttings (*plantae*) or layers (*propagines*), which were planted and trained in the nursery (*seminarium*). They might then be transferred to the vineyard (*vinea*) and grown

[1] Cf. also the tradition that Romulus used milk, not wine, in sacrifice.

[2] The true Caecuban (from the coast district near Fundi) was no longer grown in Pliny's time, but the name was retained in a conventional sense by traders.

Oil manufactory at Bir-Sgaoun.

on props (*ridicae*); but the common practice (condemned by some ancient authorities on agriculture) was that still followed in North Italy, by which the vines were trained on supporters planted in rows along the edge of the cornfields. For this the term *arbustum* is regularly used by all writers later than Cato. The marriage of the elm with the vine furnished the Roman poets with one of their favourite metaphors; and the former was the tree most commonly used on account of the value of its leaves for fodder;[1] but the poplar (*populus*) was common in Campania, and ashes, figs, and olives are mentioned by Pliny as in use in Cispadane Italy, as well as the cornel cherry, lime, maple, and hornbeam in Cisalpine Gaul and the willow in Venetia. The grapes were plucked in October, trodden with the feet and afterwards crushed in the press (*torcular*), the construction of which has been described above (p. 309). The juice was conducted into vats (*lacus*) and a portion of it was preserved in its sweet unfermented state (*mustum*) or boiled down into a kind of jelly (*defrutum, sapa*) used for giving body to wines of poorer quality. The rest was conveyed to the *cella vinaria*, and poured into large earthenware vessels (*dolia*) lined with pitch for fermentation. At Bosco Reale (p. 172, Fig. 31) the *cella vinaria*, in which the rows of *dolia* were found intact, was an open court with windows; Pliny, in fact, tells us that in Campania the process of fermentation was allowed to take place in the open air. The *dolia* were closed after the fermentation had subsided, in about nine days, and reopened about once in 36 days. From the *dolia* the matured wine was racked off (*diffundere* is the term used) into *amphorae* furnished with labels (*pittacia*), and transferred to the *apotheca* or *horreum*. For transport it was often put into skins (*utres*).

The cultivation of fruit, vegetables, and flowers for the market was chiefly profitable in the neighbourhood of Rome or the larger towns: *sub urbe hortum omne genus*, says Cato, and Varro repeats the advice. Under the Empire, however, such produce was often transported for considerable distances: the Roman market was supplied with peaches from Verona, asparagus from Ravenna, and roses from Paestum, and the construction of fresh roads in Central Italy by Claudius (p. 42 f.) gave an impulse to fruit-growing on the east coast. The pot-herbs sold in the *forum holitorium* were, however, chiefly grown in Latium and Campania. Only a few species of flowers—the rose, violet or pansy, lily and crocus—were grown for sale.

Pastoral farming (*pastio*) is fully treated by Varro in the second book of the *de re rustica*. He divides it into *pastio agrestis*, or *res pecuaria*, the breeding and management of cattle, sheep, &c.; and *pastio villatica*, the sphere of which includes the farmyard, the fishpond, and the apiary. The Romans distinguished *armenta*, including all draught-animals (ox, mule, horse, and ass) from

[1] In modern times it has been replaced in North Italy by the white mulberry.

greges, which denoted those which furnished food or clothing (sheep, goat, and pig); the term *maiores* and *minores pecudes* were also used for these two classes. It must be remembered that kine were chiefly bred as beasts of draught and not for meat, sheep mainly for the sake of their wool, and goats as milk-producers. The oxen kept on a *fundus* were kept at grass when possible, and if not, fed on green fodder in the spring, leaves in the summer and autumn, and hay, chaff, seeds, &c., in the winter; sheep, too, were fed in pens (*saepta*, *ovilia*) or turned out on the fields after the harvest. But there was also a system of pastoral farming on a large scale, which became increasingly important as wealth accumulated, and exists at the present day in Italy. The essential feature of this was the alternation of summer and winter pastures. Vast tracts of upland—*loca aspera*—added to the territory of Rome by the conquest of Italy, were unsuited for cultivation, but eminently fitted for summer pasture; and these were monopolized by rich cattle-owners—*pecuarii*—whose vast herds were tended by slaves[1] in the mountain glens and woodlands (*saltus*) of the Central and Southern Apennines, whence they were driven in the winter to the lowlands of Apulia and Calabria. The broad trackways by which they marched—e. g. from Reate and Samnium[2] to Apulia—were called *calles publici*, and the maintenance of order was assigned to officials of high standing: praetors, quaestors, even at times a consul. On the *ager publicus*, where it was used for grazing, a poll-tax (*scriptura*) was levied and collected by *publicani*; but there were many *saltus privati*, and in the lowlands farms which had been under cultivation in the summer were turned into winter pastures. The herds and flocks were allowed free roadside grazing on the *calles*, which survive to the present time under the name of *tratturi*. Besides oxen and sheep, brood-mares were often pastured in droves on this system; horses were, it must be remembered, not as a rule used for agricultural work, but were bred for racing, riding, or military service. Travelling carriages were generally drawn by mules. Asses were highly valued for driving, and Varro tells us that those bred at Reate sometimes fetched as much as 60,000 sesterces apiece, or even 400,000 for a team of four.

Besides the ordinary breeds of sheep, notably those of Apulia and Calabria (which were short-wooled) and Cisalpine Gaul (where the woollen industry became very prosperous under the Empire), the Tarentine was highly prized and the fleeces of the sheep were protected by skin-jackets (hence the term *oves tectae*). Such sheep were kept in stalls and fed on green fodder, or (in winter) on

[1] The flocks of sheep sometimes numbered 15,000 head; shepherds (*opiliones*) were assigned to them in the proportion of one to every 100. The herds of oxen were tended by *armentarii*, to be distinguished from the farm-hinds or *bubulci*.

[2] An inscription at Saepinum in Samnium records complaints made by the *onductores* who managed the flocks belonging to the emperor (M. Aurelius) against the authorities of the towns on this route.

barley and crushed beans, and shorn in the spring or early summer. *Oves tectae* were largely reared in Southern Spain. Goats were kept not only for their milk, but for their hair, which was woven into coarse cloth, used for sails. The Cilician breed was highly esteemed on account of the length of its hair. Swine were kept in herds and driven to pasture in woods where acorns, beech-mast, &c., were to be found.

The management of farmyard stock, &c. (*pastio villatica*), is described at length by Roman writers, since it yielded large profits in the neighbourhood of Rome or the larger towns of Italy. Thus not only were chickens, ducks, and geese bred and fattened for the market, but large profits might be made by rearing peacocks (*pavones*), which were introduced by Hortensius at a banquet which he gave on his instalment as augur and became a favourite dish; a certain Aufidius Lurco made an income of 60,000 sesterces by this means. Pigeons were also kept in large numbers in the dovecote (*columbarium*), and fetched high prices for breeding purposes; and wild birds, especially thrushes and fieldfares (*turdi*), were caught and fattened in aviaries (*ornithones, aviaria*), where they were fed on dried figs pounded and kneaded with corn. Varro speaks of a farm in the Sabine country where 5,000 thrushes were sometimes sold in a single year at three denarii apiece. Bee-keeping was reduced to a science, whose precepts are to be found in Vergil and Columella, and snails and dormice were bred as articles of luxury. Fishponds (*piscinae*), both fresh (*dulces*) and salt (*salsae*), were often kept; indeed, in the last century of the Republic the villas of the wealthy on the sea-coast of Latium and Campania always had their *piscinae* in communication with the sea, chiefly filled with mullets and lampreys (*muraenae*). The management of these was a hobby which provoked the sarcasm of Cicero. The fish were often tamed and answered their master's call; and the epicure Vedius Pollio, who owned the villa of Pausilypon (*Posilipo*) near Naples, is said to have fed his lampreys on the flesh of slaves. Varro tells us that the estate of a certain Abuccius produced an income of 10,000 sesterces from arable land and 20,000 sesterces from *pastio villatica*, but that had it lain on the sea-coast 100,000 sesterces might have been obtained, doubtless from *piscinae*. Artificial oyster-beds were first formed by Sergius Orata, the inventor of hypocausts (p. 118), in the Lucrine lake, and yielded a large revenue.

It has already been said (p. 305) that the small farmer never became extinct in Italy. The practice of tilling the fields by gangs of fettered slaves (*compediti*) kept in barracks (*ergastula*) is condemned as uneconomical by Columella; and though the wealthier Italians undoubtedly possessed large landed estates, these consisted in a number of contiguous *fundi* let to tenant-farmers (*coloni*), usually on a five years' lease at a money rent. The 'Alimentary Table' of the Ligures Baebiani near Beneventum, an inscription which records the loans made by the government to agriculturists

at low interest, the proceeds of which formed a fund for the maintenance of poor children, shows that in that district the accumulation of *fundi* in a single hand was rare—one owner has eleven, another four, the rest are in several ownership and none are very large. In the provinces, however, and especially in North Africa, it was otherwise. Here the word *saltus*, which in Italy means a large tract of unreclaimed land, used for pasture or bearing forest trees, is applied to the vast domains owned by individuals, many of which were gradually absorbed into the Imperial property (*patrimonium*, beside which the *res privata* was set up by Septimius Severus). Pliny, no doubt exaggerating, tells us that 'six landlords owned half Africa', and had their estates confiscated by Nero. Excavation has brought to light the remains of the sumptuous *villae* in which these magnates lived. At Oued-Atmenia, between Cirta and Sitifis, there was found the *villa* of one Pompeianus, adorned with mosaics which give some idea of the buildings on his demesne. The *villa* itself was a long building with a central tower three stories high and domed pavilions at either end; the stables were occupied by horses trained for the circus (cf. p. 360) whose names are inscribed beside them; and we also see the houses of the stockman (*pecuarii locus*) and the forester (*saltuarii ianus*), and an orchard in which a young man and a lady are conversing, described as *filosofi locus*. The administration of the great *saltus* on the Imperial domain is gradually being made familiar to us by the discovery of inscriptions. They were, it seems, grouped together in *tractus*, each managed by an agent or *procurator* of the emperor; and the revenues of the individual *saltus* were usually farmed by a *conductor*, who kept a part of the property in his own hands and let the rest to *coloni* on the *métayer* system. The *partes fructuum* and the conditions of tenure were determined by the Imperial government—we read of a *lex Hadriana* regulating the African estates. One-third of the crops of corn and wine was usually exacted from the *colonus*, who was also obliged to perform a fixed amount of services (*operae*) on the demesne farmed by the *conductor*. The *coloni* formed large communities which were outside the territory of the towns, and came in time to have a quasi-municipal organization and in Christian times formed episcopal sees; but they gradually lost their freedom, and became serfs bound to the soil. The Imperial domains doubtless led the way in this momentous change, the stages of which can be clearly traced in Asia Minor as well as in Africa.

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§ 2. Industry and Commerce.

Some writers on economic history have drawn broad distinctions between 'household' economy, 'city' economy, and 'national' economy, and have further maintained that the first was characteristic of the ancient world, the second of the Middle Ages, and the last of modern times. Such generalizations are very misleading. It has been shown in the previous section that not even the agricultural 'household' was self-sufficing: and the chapter in which Cato recommends his Campanian farmer to make purchases in the towns where the several wares were best—e.g. clothing for slaves, wine-jars, bolts and locks at Rome, wagons at Suessa or in Lucania, iron implements at Cales and Minturnae, bronze goods at Capua or Nola, and so forth, affords clear evidence of specialized industry. Commerce, again, was much older than the growth of Rome; she owed her success in part to her favourable position at the crossing of two trade-routes—one from north to south connecting Etruria with Campania, the other following the Tiber valley to Umbria and the north-east. If Polybius speaks truly, a treaty was concluded as early as 509 B.C. between Rome and Carthage, the object of which was to exclude Roman traders from the Punic 'sphere of influence' in the south-west Mediterranean;[1] and even if Polybius has antedated this instrument, we must at least place it (with Livy) in 348 B.C. By this time it was evident that Rome was a potential rival of Carthage for the western trade; and no sooner had Rome achieved the conquest of Italy than the struggle began which was to end only with the destruction of her competitor.

The nautical vocabulary of the Romans contains a number of Greek terms: and this shows that their seamanship was in part learnt from their Campanian neighbours, with whom they were in close intercourse from the latter part of the fourth century B.C. onwards. Moreover, as was shown in chap II, § 10, the importance of Ostia, which was the natural harbour of Rome, declined as that of Puteoli increased: and in 199 B.C. the latter place received a Roman colony and custom-houses were established there and at Capua. Not only did the Eastern traders settle in Puteoli, bringing with them their native gods, and establish *stationes* or dépôts both there and in Rome itself, but the Roman *negotiator* speedily found his way eastwards. A large colony of traders was soon established at Delos, which was declared a free port in 168 B.C. in order to counteract the influence of Rhodes, hitherto predominant in the Aegean. How rapidly the Nearer East was overrun by enterprising Romans (especially after the acquisition of the kingdom of Pergamon in 133 B.C.) we may infer from the fact that 80,000 were massacred at the outbreak of the second Mithradatic War in 88 B.C. The conquest of Spain and the discovery of its mineral wealth likewise

[1] Polybius interprets the treaty in the sense that an *Eastern* limit was fixed for the enterprise of Roman traders; but in this he was certainly mistaken.

attracted Roman speculators; the province of Gallia Narbonensis, where the colony of Narbo was founded in 118 B. C. at the instance of the capitalist class, was filled with *negotiatores*, without whom no business transaction (according to Cicero) took place, and is described by Pliny as *Italia verius quam provincia*, and Africa (as we have seen) was parcelled out into great estates, all in the hands of Romans.

The *negotiator*, whom we must be careful to distinguish from the farmer of taxes or state-contracts (*publica*—hence called a *publicanus*), was in the main a banker, bill-discounter, and money-lender; the system of credit and exchange had been elaborated by the Greeks of the Hellenistic age, but the Romans, when once they had mastered its principles, soon gained the control of its working. If a bond (*syngrapha*) is known by a Greek name, a bill of exchange (*permutatio*) and a cheque or banker's draft (*perscriptio*) have their purely Latin titles. Besides conducting these purely financial operations, which were their proper sphere of enterprise, the *negotiatores* also speculated in the produce of the provinces, especially in corn, which was either supplied to the Roman market or to the provincial armies; but commerce, properly so called, was the business of the *mercator*, who was often a shipowner as well as a merchant. Such were the *mercatores qui Alexandr(iae) Asiai Syriae negotiantur* who are named in an inscription of Puteoli; and from the time when C. Flaminius, consul-elect in 218 B. C., caused the *lex Claudia* to be passed which forbade senators to possess ships except for the transport of the produce of their own estates, commerce passed into the hands of a wealthy non-senatorial class, whose interest was bound up with those of the tax-farmers and money-lenders. Under the Empire the distinction between *mercator* and *negotiator* became obliterated; the Romanized provincial was able to compete on more equal terms with the inhabitants of the capital, and the word *negotiator* came in time to be applied to retail traders in Rome.

Something has already been said of the main routes by land and sea in chap. I, § 4. We get little direct information about these from ancient writers; but the geographer Ptolemy, writing in the second century A. D., while basing his work chiefly on the Alexandrian writers such as Eratosthenes, incorporated some valuable information, especially concerning the Eastern routes, which could only have been derived from traders. It will be convenient to summarize briefly what is known regarding each of the main geographical divisions of Roman commerce. We must always remember that Italy consumed more than she produced. Wine and oil were her chief exports, woollen goods were manufactured in the valley of the Po, fine pottery (cf. chap. VIII, § 7) in Etruria and Campania, iron implements at Puteoli, and so forth; but Rome herself was not a city of manufactures: and though the tribute of the provinces in part reached her in kind, the demand for luxuries, especially those produced by the East, caused a

continual outflow of the precious metals from the Empire. Pliny tells us that 100,000,000 sesterces were expended yearly on the merchandise brought from the Further East by the Red Sea route; and the finds of Roman coins which have been made in India and Ceylon confirm the statement.

i. *The route through Alexandria and Egypt to the East.*

Under the monarchy of the Ptolemies Alexandria had become the chief commercial centre of the Near East, and the entrepôt through which most of the most valuable produce of the Further East passed into the Mediterranean area; and in Roman times its importance was considerably increased. Egypt supplied one-third of the grain consumed in Rome, and the arrival of the Alexandrian corn-fleet was hailed at Puteoli as the chief event of the year. Alexandria itself was a great manufacturing city, exporting linen, paper, glass, embroidered stuffs, and works of art; granite, porphyry, &c., came from the quarries of the Thebaid; but, above all, it was by the Nile route that the produce of India, Arabia, and East Africa found its way to Rome under the Empire. There were two ports on the Red Sea coast, Berenice and Myos-hormos; and this latter, though further to the north, was a more convenient harbour and therefore secured the greater part of the traffic. Caravan routes led from Berenice (in eleven days) and Myos-hormos (in six or seven days) to Coptos on the Nile, whence merchandise was conveyed by river to Alexandria. The importance of this route was greatly increased under the Empire, when the traffic with South Arabia, which had hitherto followed the land route from hence to Petra (p. 319), was diverted to the Red Sea ports, possibly, as Mommsen supposes, by the imposition of differential duties. Moreover, the increased demand for Eastern luxuries led to a more active and regular trade with India; in the time of Nero a Greek merchant named Hippalos, observing the regularity of the monsoon, ventured on the direct voyage to India by open sea, and we are told by the author of the *Periplus maris Erythraei*, who was probably a contemporary of Hippalos, that considerable fleets of merchant ships were engaged in the Indian trade. From South Arabia, of which the chief town was Adane (Aden), came spices, perfumes (frankincense, &c.), and precious stones; India furnished, besides pepper (always highly prized by the ancients), tortoise-shell and pearls. From East Africa the most valuable export was ivory. Ptolemy Philadelphus had organized regular elephant-hunts, the produce of which was brought to Adule (near Massowah in Abyssinia), the chief port of the Ethiopian kingdom of the Axomitae. In Imperial times traders went further afield, coasting along Somaliland (Azania), where the ivory traffic was controlled by the Sabaeans of South Arabia, and penetrating (apparently) as far south as Zanizbar and the opposite coast; hither the ivory was brought down from the region of the Great Lakes, of which some vague reports reached Ptolemy.

ii. *Routes through Syria to the East.*

Syria was itself one of the most important industrial regions in the ancient world, and its inhabitants were amongst the most enterprising traders. Inscriptions prove them to have established their guilds not only in Italy (especially at Puteoli) and Rome, as well as in the western provinces, particularly in Gaul (e. g. at Lyons) and Germany (at Trier), in Spain (at Malaga); and they soon found their way to newly-conquered districts such as Dacia. The purple dyes of Tyre and the glass of Sidon (cf. p. 441) were famous; and throughout Syria flax was grown and woven into fine linen. But besides supplying these products, the Syrians derived great profit from the transit of goods from the Further East. The silk trade will be considered presently; the produce of India to a large extent found its way to the port of Charax at the mouth of the Persian Gulf, and thence by the Euphrates and across the desert, by the caravan-route passing through Palmyra to Damascus. An inscription of A.D. 137, found at Palmyra, gives information about the tariff levied by the Palmyrenes on the merchandise of the East, and helps to account for the prosperity of the town, which in the end aspired to rival Rome and was only crushed after two wars by Aurelian. From the south came the products of Arabia by the land-route from the head of the Arabian Gulf to Petra, whence they might proceed northwards through Bostra to Damascus or be conveyed to the port of Gaza on the coast. Pliny speaks of the enormous expense of conveying frankincense by this route, and it became less important under the Empire, as was mentioned above.

iii. *The silk trade with China.*

The Chinese silk-trade demands special notice. The silk-worm (*bombyx*) is first mentioned in ancient literature by Aristotle; and the manufacture of silk from its cocoon was carried on in Assyria, whence *bombycinae vestes* were imported by the Romans, and also in the island of Cos. The *Coae vestes* of which the Augustan poets speak were made of this material, which, however, for all its gloss and transparency, was much inferior to the true *Serica vestis*, made from the product of the *bombyx mori* reared in China, which was pure white, whilst the silk of Cos and Assyria was yellow.[1] The secret of its manufacture was so well kept that the ancients generally believed it to be a vegetable product.[2] It was not until the

[1] The Coan silk was produced by the wild silk-worm; moreover, the process by which the insect is destroyed before emerging from the cocoon, which is then unwound instead of being pulled to pieces, was unknown in the West.

[2] As, for example, Vergil (*Georg.* ii. 121). Pausanias, writing under Marcus Aurelius, is the first author who states definitely that Chinese silk is the product of an insect; the information may have come from the ambassadors sent by Marcus Aurelius, *v.* p. 320.

reign of Justinian that silk-worms were imported from Khotan and the industry established at Constantinople. In the first century of our era the Chinese product, whether in the form of raw silk (*metaxa*), thread (*sericum nema*), or woven fabrics (*sericae vestes*), began to oust the manufactures of Cos from the Roman market; they are not, in fact, mentioned by any author later than the elder Pliny. Chinese silk reached Europe by four trade-routes:

(*a*) the overland route from Northern China, which was the silk-producing region (the modern provinces of Shantung, Shansi, and Shensi, with the centre of the industry at Si-ngan-fu), through Chinese Turkestan (Issedon Serica, mod. Khotan, and Issedon Scythica, mod. Kashgar) to Bactria, and thence by the Caspian gates to Media and the Euphrates.[1]

(*b*) a branch of the above, crossing the Pamirs from Kashgar and descending the valley of the Indus to Karachi, whence the silks were carried by sea to the Persian Gulf;

(*c*) from Central China (Sze-chuen) through Tibet and Nepaul to Palibothra (Pataliputra) on the Ganges, and so to the mouth of that river and thence by sea to Egypt;

(*d*) from Cattigara in the country of the Sinae, i. e. Tonkin; this was the route taken by the embassy (mentioned in Chinese annals) sent to China by 'Antun' (Antoninus = M. Aurelius) in A. D. 166.[2]

iv. *The Greek lands.*

Greece itself had little to offer to the trader, excepting the varieties of coloured marble, which were for the most part quarried on the Imperial domains. The purple dye of the Laconian coast, and some food-products such as the honey of the Hymettus and the wines of Argos on the islands, were the chief exports. In Asia Minor certain industries, such as weaving and embroidery and the manufacture of parchment, flourished under the Empire; and though the bulk of the Eastern trade no longer came overland to Ephesus, slaves and minerals (especially iron) were brought from the interior to the coast-towns. There was a considerable trade with the Black Sea ports, especially Tanais at the mouth of the Don and Panticapaeum (Kertch) and Phanagoria at the entrance of the Sea of Azoff (Palus Maeotis). Corn was indeed no longer exported from South Russia, as it had been in the days when Athens drew her chief supply from this source; but hides, slaves, and salt fish were brought thence to Rome.

[1] Ptolemy derives his account of this route from that of a Syrian merchant named Maes Titianus, who endeavoured to establish direct relations with the Chinese traders in Turkestan.

[2] This may have been a commercial mission sent to open up a fresh route in consequence of the closing of the overland transit-routes through the war between Rome and Parthia (A. D. 162 6).

v. *The Balkans and the Danube provinces.*

These districts had no important centres of manufacture, but supplied Rome with raw materials such as timber and especially minerals. Iron ore was found in large quantities in Noricum and also in Dalmatia and Macedonia; and gold was produced in Dalmatia.[1] One of the chief motives for the conquest of Dacia was the annexation of the gold-bearing district of Alburnus (Verespatak in Transylvania), where a colony of Dalmatian miners of the tribe of the Pirustae was settled by Trajan. The trade-route by which the amber of the Baltic coast was brought to Italy passed through Carnuntum (Petronell) in Pannonia on the upper Danube, as we may infer from Pliny's statement that the amber-coast was 'about 600 miles from Carnuntum'; and this material, which had gone out of fashion in the Hellenistic period, was once more—as in the early days, when it was imported by the Black Sea route—eagerly sought after.

vi. *The West.*

The Western provinces fall into two groups, the first of which was chiefly valuable to Rome as a source of raw material, while the second furnished important manufactures. Spain, North Africa, and Britain belong to the first group, Gaul and the Rhineland to the second.

(*a*) The African provinces were rich in grain and oil—two-thirds of the corn consumed in Rome was imported thence—and also supplied coloured marble, especially *marmor Numidicum* (*giallo antico*), the quarries of which were part of the Imperial domain. Purple dye was produced in the island of Meninx (Gerba), and sponges were exported from the Syrtes (coast of Tripoli), and there was also a caravan-route across the Sahara by which Central African products—gold-dust, ivory, ebony, &c., and wild beasts for the shows of the amphitheatre—were brought to the coast. We read of expeditions against the Garamantes, in the modern Fezzan, the object of which was to secure this route; L. Cornelius Balbus, in A. D. 22, is said to have subdued the country twelve days' journey inland from Tripoli, and to have reached Garama itself (Germa). The two westernmost provinces (Mauretania Caesariensis and Tingitana), which were less civilized when annexed than the old Phoenician settlements, attained no small prosperity under the Empire; a tariff-inscription found at Zarai, on the boundary of Numidia and Mauretania, shows that not only slaves, cattle, fruit, sponges, and wine, but woollen stuffs and leather manufactures were exported from the more backward province. The purple murex was also obtained on the Atlantic coast and the adjacent islands (called the 'isles of the Hesperides').

(*b*) The wealth of Spain was chiefly in minerals; indeed, our

[1] The gold and silver mines of Macedonia, so famous in Greek history, were closed soon after the victory of Rome in the third Macedonian War.

knowledge of Roman mining is chiefly derived from the inscriptions and remains of ancient workings discovered at such sites as Rio Tinto, west of Seville, then as now a rich copper-producing district; Castulo (mod. Linares), a lead-mining region; and the *metallum Vipascense*, in Southern Lusitania (mod. Aljustrel), where fragments of a *lex* or Imperial charter regulating the terms of the concession granted to the *conductor*, or lessee of the copper-mine, and also the municipal affairs of the mining settlement, have been found. The silver mines which had been exploited by the Carthaginians were no longer very productive in Imperial times; but the North-West produced gold, tin, and other minerals, and the port of Gades became important as the trade with these regions developed. The Romans were of course not the first to discover these sources of wealth: beside the Carthaginians, the Massiliots had explored the Atlantic coast, and the famous voyage of Pytheas, to which we owe the earliest account of Britain, was really a commercial mission dispatched from Massilia. Besides textile fabrics, Spain exported steel blades, especially from Toletum (Toledo).

(*c*) The trade of Gaul had followed the Rhone Valley to Massilia before the Roman conquest: but the resistance of the Massiliots to Caesar in the Civil War involved them in a calamity from which they never recovered, and Arelate outstripped Massilia in importance as the focus of the routes to the north. The old province of Gallia Narbonensis soon became thoroughly Romanized, and a rich vine-growing district; in the Three Gauls the most important industries were the manufacture of clothing—particularly the warm woollen garments suited to a northern climate, which were imported into Italy for winter wear—and the minor arts and crafts, notably that of the potter, on which see chap. VIII, § 7. These were in course of time established in the valleys of the Rhine and Moselle, where the vine was also extensively grown in the fourth century A.D.

(*d*) Whatever be the truth concerning the 'Cassiterides' or 'tin-islands', there can be no doubt that British tin was exported from very early times: Pytheas discovered that it was conveyed to Corbilo at the mouth of the Loire, whence it found its way overland to Massilia. It is therefore remarkable that when the Romans conquered the island they neglected to develop the Cornish tin-mines, at any rate before the third century A.D.; it is suggested that brass (an alloy of zinc with copper) was now preferred to bronze, in which tin is an ingredient: but this hardly accounts for the diminished importance of the British tin-trade. On the other hand, the Romans at once began to work the lead-mines of the Mendips (pigs of lead dated to A.D. 49 have been found), and afterwards those of North Wales; iron was extracted in the Weald and the Forest of Dean, and even gold in West Wales, where it has been estimated that about 1,000,000 ounces (equal in value to £4,000,000) must have been obtained from the mines of

Dolaucothi. Corn is said to have been exported to the mouths of the Rhine. Celtic art, which had shown a vigorous individuality in metal-work, enamels, &c., withered at the touch of cosmopolitan Roman civilization, and its traces are few, though not wholly absent; amongst the imitative industries planted by the Roman settlers in Britain that of pottery was the most important (cf. p. 446).

The main routes by which the merchandise of the provinces was conveyed to Italy are indicated on the Map 4; cf. chap. I, § 4, where the speed of ancient ships is discussed. There are many representations both of sea-going vessels and river-craft (such as was used by the *navicularii* of the Tiber, or the *nautae* of the Rhone, who were organized in *collegia* or guilds) in ancient art; but they leave us in doubt on many important details. Several types of craft are represented on a mosaic discovered at Henchir

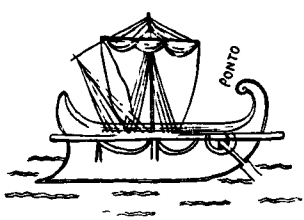

FIG. 51. *Ponto.*

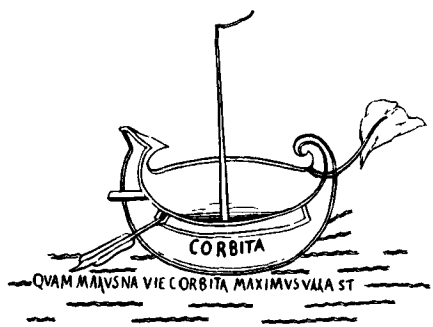

FIG. 52. *Corbita.*

Medeina, the ancient Althiburus, on the road from Carthage to Theveste, which seems to have adorned the *frigidarium* of a suite of private baths. The sketches are accompanied by inscriptions giving the name of the vessel and sometimes a verse quotation, which can in more than one instance be shown to come from the Satires of Lucilius. Those which are here reproduced may be classified as follows:—

(*a*) Heavy merchantmen. Such are the *ponto* (Fig. 51) and *corbita* (Fig. 52). The former is mentioned by Caesar (*Bell. Civ.* iii. 29. 3) as a Gallic vessel, and in a later chapter (40. 5) the *pontones* are described as *naves onerariae* or merchantmen. The mosaic shows the mainmast and square sail, and also (though this is poorly preserved) a foremast which appears to be dipped. The prolonged waling-piece is peculiarly noticeable; the designer of the mosaic probably exaggerates here, as he does in some other designs: but that strong waling-pieces were in use, and were prolonged in order to protect the steering-paddles, is shown e.g. by a relief representing a merchant-ship from the tomb of Naevoleia Tyche at Pompeii.

The stern is sharply pointed, and the lines of the ship are in strong contrast with those of the *corbita*, a much heavier craft, which is described as *oneraria* by Cicero in a letter when he discusses the means of crossing from Rhegium or its neighbourhood to Greece in 44 B. C. We are told by Festus that the *corbita* took its name from the practice of hanging a basket from the mast-head, but it is far more likely that the name was derived from its unwieldy shape.

(*b*) The lighter sea-going craft are represented by the *actuaria* (Fig. 53) and *myoparo* (Fig. 54), both of which are shown with a single mast and oars as well as sail. The *actuaria* is always opposed by Roman writers to the *oneraria*, and grammarians derive its name from *agere* (*quod cito agi possint*). Their distinctive feature was the bank of oars[1] (ten are mentioned by Cicero as the complement of an *actuariola*, thirty as the limit imposed by Rome in the treaty made in 188 B. C. with Antiochus the Great,[2] who was not allowed

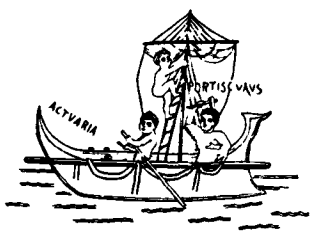

FIG. 53. *Actuaria.*

FIG. 54. *Myoparo.*

to retain more than ten such ships). Caesar uses the word of the transports built to his order for the passage of the Channel in 54 B. C., implying thereby that they were designed for rapid rowing; and we hear of the *actuaria* both as a dispatch-boat and as a piratical craft. The typical pirate ship was, however, the *myoparo*. The word is a compound of the simple παρών, which is less commonly found, and μῦς which in the diminutive μύδιον (Lat. *musculus*) is found as the name of a rowing-boat on the mosaic of Althiburus. The Cilician pirates of the second and first centuries B. C. possessed fleets of such craft, and they were used for coast defence by cities such as Miletus and Syracuse: we also find them in the squadrons of the triumvirs.

(*c*) Figs. 55-7 illustrate fishing-boats and river craft. The *hercia* (Fig. 56) is to be identified with the fishing-boat called *horicula* by the grammarians; two nets, in fact, are shown in the figure. The *stlatta* (Fig. 55) is defined as a vessel 'greater in breadth than in length', and was used for river traffic, as the line quoted in the

[1] In Fig. 53 we see the boatswain wielding the *portisculus*, a hammer which was struck on the gunwale in order to give the time to the rowers.

[2] This provision is given by Livy: according to Polybius no *actuariae* were left to Antiochus.

mosaic shows; while *celoces* (Fig. 57), Gk. κέλητες, were light rowing-boats.

The commercial port of Rome was the *Emporium*, at the foot of the Aventine; its quays were constructed by the aediles of 192 B. C., and paved some years later. This quarter soon became covered with large warehouses (*horrea*), remains of which are still preserved; they cannot, however, vie with those of Ostia, excavated in recent years. These *horrea* were long buildings divided by a central party-wall into two ranges of chambers placed back to back, and either formed streets or squares. The *horrea* of Ostia were used for the reception of the heavy goods discharged at that port, which were transported to Rome in barges. Those of Rome were partly public, partly private property, and besides the *horrea* adjoining the Emporium there were others, such as the

FIG. 55. *Stlatta.*

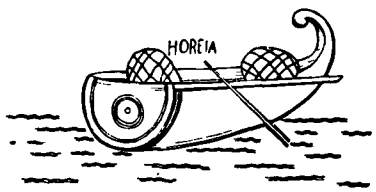

FIG. 56 *Horeia.*

FIG. 57. *Celoces.*

horrea piperataria or spice-warehouses adjacent to the Sacred Way on the spot afterwards occupied by the Basilica of Constantine (Map 5). From the warehouses the imported goods found their way to the shops (*tabernae*) of retail traders.

The customs dues (*portoria*) levied on the transit of goods were not as a rule high. Harbour dues were levied in Italy under the Republic until 60 B. C., when they were abolished, but were reimposed by Julius Caesar. Under the Empire large customs-districts were formed, and an *ad valorem* duty was levied on goods crossing their boundaries, which varied in the different parts of the Empire. In Sicily, for example, the earliest in time of the transmarine customs-districts, we hear of a *vicesima*, or five per cent. duty; and it may have been the same in Africa, where there were four districts (whose centres were Carthage, Hadrumetum, Hippo, and Leptis magna), whence the expression *quattuor publica* was used by the tax-farmers; at any rate, a *vicesima* was levied at the African ports under the later Empire. The *vectigal Illyrici*,

exacted at the boundaries of a large customs-area embracing all the provinces bordering on the Danube, together with Dalmatia,[1] may also have been a five per cent. duty.

The rate of 2½ per cent. (*quadragesima*) was also common: thus the *quadragesima Galliarum* was levied at the frontier of the Three Gauls, in the province of Asia, and in a district formed by the provinces of Bithynia, Pontus, and Paphlagonia. At the Red Sea port of Leuce Come (p. 318) the exceptionally high tax of 25 per cent. (τετάρτη) was levied—unless, indeed, τετάρτη should be corrected to τεταρακοστή (=*quadragesima*, 2½ per cent.). It is unfortunate that we do not know the amount of the *portorium* in Italy itself.

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§ 3. HANDICRAFTS AND MANUFACTURES.

It has been shown in the foregoing sections that the 'self-sufficing household' is a figment, so far as concerns Roman society. Specialized industry is implied by the tradition which ascribes to Numa the earliest guilds (*collegia opificum*)—those of the flute-players (*tibicines*), who were of some importance in virtue of the part which they played in religious ritual (cf. p. 294), the gold-smiths (*aurifices*), the builders and carpenters (*fabri tignuarii*, see below), the dyers (*tinctores*), the shoemakers (*sutores*), the tanners (*coriarii*), the coppersmiths (*fabri aerarii*), and the potters (*figuli*). However small may be the historical value of this tradition, it is at least worthy of note that the supply of food and ordinary clothing (except footwear) forms no part of the functions of these guilds; and we may well believe that in early times each household had its own mill or mortar (*pila*) for grinding corn, and its own loom in which the yarn spun by the womenfolk with distaff (*colus*) and spindle (*fusus*) was woven into cloth—the *tela togalis* which Cato mentions amongst the articles required in stocking a farm, together with the *pila fullonica*, a trough in which the cloth was washed and trodden to remove impurities before being made up into garments. We are told that bakers, called *pistores* from the fact that they ground the corn from which their bread was made, were unknown in Rome until the time of the third Macedonian War (171 B. C.); and a *collegium* of butchers (*lanii*), who plied their trade in the meat-market (*macellum*, cf. p. 107), is mentioned in an inscription of Republican date. The guild of fullers (*fullones*) is mentioned as early as 220 B. C., and was very probably in exis-

[1] Hence apparently called *octo publica*—the eight districts being Raetia, Noricum, Pannonia (Upper and Lower), Moesia (Upper and Lower), Dacia, Dalmatia.

tence at a much earlier date. We may be sure that as Rome grew, the specialization and organization of handicrafts progressed, until in Imperial times the division of labour was carried into the minutest details. The factory system was, however, unknown in antiquity: the rich man might own shops (*tabernae*) in which he placed his slaves or freedmen as managers (*institores*) or salesmen, often allowing them to pay him a fixed sum and make what profits they could (*peculium*)—profits which the slave would naturally invest in the purchase of his freedom: but production was as a rule in the hands of the guilds of master-craftsmen.[1] As in modern, so in ancient Rome (and throughout the Roman world) the streets often bore names taken from the crafts practised therein: the *vicus Sandaliarius* was the 'street of sandal-makers', the *vicus Vitrarius* the 'street of glass-workers', and so forth.

The appearance of the *tabernae* is easily realized at Pompeii, where the outer parts of the private houses whose frontage lay on the principal thoroughfares were used as shops. The front of these was open to the street, and was partly occupied by the counter, which turned inward at right angles, leaving a narrow passage-way at the side. It was generally of masonry, and contained large jars in which the goods for sale were kept. Shop-signs were used; a relief showing the Three Graces and a seated figure with the inscription AD IIII SORORES, may be classed as such.

It is impossible to enumerate all the trades carried on by the Romans; but the more important may be classified as follows:

A. *Clothing Trades.*

In a passage already cited (p. 316), Cato advises his farmer to purchase at Rome *tunicas, togas, saga, centones*; he refers, of course, to cheap clothing for the use of the farm-labourers, and the *centones*, which were patchwork garments made of the remnants of second-hand clothing, need not detain us here;[2] but the other types formed the principal stock in trade of the Roman clothier.

The *toga*, 'covering' (from *tego*), was the national garment of the Romans for outdoor use; in fact, in the earliest times it was the *only* garment, worn alike by men, women, and children, in peace and war. In Imperial times, on the other hand, it was the full-dress garment (like the frock-coat of the modern Englishman), which was considered so irksome by the mass of the population that, in the well-known words of Juvenal,

nemo togam sumit nisi mortuus;

and Hadrian was obliged to enforce its use by edict on the senators and knights, except when returning from a dinner party.

[1] For an exception in the case of *figlinae* see below, p. 334.

[2] Such patchwork, when soaked in vinegar, was used to prevent the spread of fire (and therefore to protect siege-engines like the *vinea*); hence the *collegium* of *centonarii* was grouped with others in local fire-brigades.

The primitive *toga*, however, was a much lighter garment than the cumbrous gown of later times. It was, in fact, a woollen mantle fastened with brooches or safety-pins (*fibulae*), such as we find in early tombs. The *flamines*, whose costume was a *toga duplex* (i. e. of two thicknesses), are said to have worn *fibulae* of bronze when sacrificing, and *fibulae* were used in fastening the *trabea*. This was a garment worn on certain official occasions, e. g. by the consul when opening the Temple of Janus, by the *Salii* in their ritual dances, and the *equites* at their yearly parade on July 15,[1] and in early times by the augurs and greater *flamines*; and it seems clear that it represents the original *toga* with the distinguishing mark of the stripe or edging (*trabs*), which varied in colour. The king's *trabea* had been of purple with a white edge, while that of the *flamines* was white with a purple edge; and this latter, as the *toga praetexta*, became the official robe of the higher magistrates and priests.[2] Patricians had once worn the purple *trabea* with a scarlet edge, and this was afterwards the distinctive mark of the *equites* at their parade. The purple robe of the king was worn in later times by the *triumphator* and the presiding magistrate at public games (cf. p. 350), and was embroidered with gold and hence called the *toga picta*;[3] as a mark of distinction one who had celebrated a triumph might be permitted to use it at festivals, and under the Empire it was worn by consuls on entering upon office in their solemn procession (*processus consularis*) to the Capitol.

The *toga* of the later Republic and Empire was simply a piece of woollen cloth (white for ordinary use,[4] dark (*pulla*) for mourning), in the shape of a segment of a circle, the chord of which measured (it has been estimated) 18½ feet and the perpendicular 7 feet; it is not quite accurately termed semicircular (ἡμικύκλιον) by Dionysius of Halicarnassus. One-third of its length was allowed to hang from the left shoulder to the ground,[5] the curved edge enveloping the arm, and the remaining two-thirds were wrapped round the back of the neck, passed under the right arm (which was thus left free) and drawn up like a baldric (hence called *balteus*) till it was thrown over the left shoulder. During this process the wearer grasped the *toga* at some distance from the straight edge, which was allowed to fall over in front and formed a curve called the *sinus*. The portion hanging in front from the left shoulder was then pulled up till a bunch of folds (*umbo*) was

[1] It has been suggested that the equestrian *trabea* is represented on the relief (Pl. XLVIII), showing the *decursio* at the *consecratio* of Antoninus Pius; but it is usually held that the *equites* are there wearing the *sagum*.

[2] It was also worn by freeborn children until the plain white *toga virilis* was assumed at the age of seventeen.

[3] This is shown on the consular diptychs (Pl. LIX).

[4] It was specially whitened with chalk (*cretata*) when worn by candidates for public offices; hence the term *candidatus*.

[5] The angular extremity was called *lacinia*.

seen to project over the *balteus* in the centre, and this was carefully arranged—we hear of tongs (*forcipes*) being used. It is thus that the purchaser of the cutler's wares on Pl. LIII wears his *toga*. In certain ritual acts the sacrificing priest wore his *toga* with the *cinctus Gabinus*, in which the end passed under the right arm was wound tightly round the body like a girdle instead of being drawn up in the *balteus*. Again, in the 'Gabine rite' the overhanging part at the back was drawn up over the head (*velato capite*), and this is often represented on the monuments (e. g. in the offering of the *suovetaurilia* shown on Pl. L). Finally, under the later Empire, there arose a new fashion by which the *balteus* was carefully folded so as to assume the appearance of a flat band or *tabula* (hence the term *contabulatio*); this is illustrated by the bust of Philip the Arabian in the Vatican (Pl. LXI) and the consular diptychs (Pl. LIX).[1] At first the *toga* was the only garment (saving a loincloth, *subligaculum*, like that of the gladiator, p. 361) worn by the Romans; Pliny notes that the statues of Romulus, Tatius, and Camillus, the conqueror of the Gauls, set up on the Rostra, were draped in the *toga* only. But in historical times the *tunica*, a sewn shirt of woollen stuff—linen did not come into general use until the Imperial age—usually girt at the waist, was regularly worn as an undergarment;[2] and when the *toga* ceased to be an everyday garment, the *tunica* became the indoor dress of the rich and the characteristic garb of the lower orders—the *tunicatus popellus* of Horace. Thus the cutler on Pl. LIII wears the *tunica* in his shop; it is girt high, although we are told that shopkeepers (*institores*) often let it hang loose (*discincti*). The tunic of the senator was distinguished by the broad stripe (*latus clavus*) of purple, which was sewn on vertically down the middle of the garment; a narrower stripe (*angustus clavus*) was worn by the *equites*, probably from the time of G. Gracchus onwards. On the bronze statue of a *camillus*, shown on Pl. LXII, two such purple stripes running parallel from either shoulder are represented by a special inlay. This tunic has sleeves, on which the hems are represented; but the poorer classes generally wore a sleeveless tunic, which they fastened on the right shoulder when at work, leaving the left shoulder and arm bare (Gr. ἐξωμίς); this is worn, e. g., by the working cutlers on Pl. LIII.

The *sagum* was the over-garment of the working class, and was of Gaulish origin. It was a square piece of cloth used as a mantle, and fastened usually on the right shoulder. As used by outdoor workers, it often had a hood (*cucullus*) which could be drawn over the head; thus Columella advises the purchase of *saga cucullata* for farm-labourers. Moreover, it was worn by the

[1] The process of *contabulatio* was also applied to the *pallium*, a mantle worn over the shoulders, which was thus reduced in time to the *pallium* scarf worn by the popes and conferred by them on archbishops.

[2] An under-tunic (*subucula*) was often worn beneath the *tunica* in cold weather.

Roman soldier on the march; we see the slinger in Fig. 39 using his *sagum* to hold his missiles. Thus the phrase *saga sumere* was used of mobilization, e. g. when a state of war in Italy (*tumultus*) was declared, citizens were ordered to 'assume the *sagum*'. The purple cloak worn by the general commanding, which was similar to the *sagum*, was called *paludamentum*. We see it worn by the emperor and his *legati* on historical reliefs. Next to the garments already described, the *paenula* was that most commonly used, especially by travellers. It seems to have been a *poncho* cloak of coarse material, with a hole for the head. We see Trajan wearing it when he arrives after a forced march at the bridge over the Danube (Pl. XIII). Other thick over-wraps were the *luena*, *lacerna*, and *abolla*, which we cannot distinguish in detail; they were often dyed in bright colours. At dinner parties a loose robe called *synthesis* was worn.

Women at first wore the *toga* like men, and for an over-wrap used the *rica* or *ricinium*, a square piece of cloth, which was worn in later times in certain religious ceremonies; but in the historical period the Roman ladies adopted Greek fashions, and wore the sleeved tunic (*stola*) and mantle (*palla*), corresponding with the χιτών and ἱμάτιον. It was noticed above (p. 282) that even the Vestals (who should by rights have worn the *toga*) are represented in this garb (Pl. XLVI). The expression *stolata femina*, used as a term of honour in Imperial times, must refer to some distinctive form of the tunic; possibly a special border (*instita*) sewn on the lower edge of the tunic was the mark of those who possessed the *ius trium liberorum*. The *palla*, like the Greek ἱμάτιον, might be worn in a great variety of ways, as the female statues of the Imperial period testify. An inner tunic was also in common use. There was, of course, much variety in the material and adornment of female dress; silk, for example—whether the *Coa vestis* of Greek make or the genuine *Serica vestis* (cf. p. 319)—became fashionable under the Empire; and strips of embroidery (*patagia*) were sewn on to the dress (cf. the consular diptychs, Pl. LIX).

The manufacture of clothing was highly specialized; thus we hear of *sagarii*, *paenularii*, and so forth, besides *vestiarii* in general. The coarser and thicker sorts of clothing were largely imported from Gaul, and other provincial makes came into fashion in later times; thus the *dalmatica* (the name of which survives as that of an ecclesiastical vestment) was a variety of the ungirt tunic with loose sleeves made fashionable by Commodus, and takes its name from the country of its origin.

B. *Leather-work and shoemaking.*

The guild of tanners (*coriarii*) is said to date from the reign of Numa, and they seem to have plied their trade in the Transtiberine quarter. At Pompeii a tannery has been discovered which occupies a whole block; beside the large circular tubs in which ordinary tanning was done, there were also rectangular troughs

lined with wood, no doubt for the process of 'tawing' with alum, which produced the finer leather called *aluta*. In another part of the building was the vat in which the ooze was prepared from the bark of trees, gall-nuts, &c. Curriers (*pelliones*) are also mentioned, and the Edict of Diocletian mentions the skins of a number of wild animals (wolves, leopards, hyenas, lions, &c.) as articles of commerce; but furs were not introduced into Rome until late times, though worn by the barbarous races of the North.

The finished leather was chiefly used by saddlers (for whom no special term is in use), the makers of leathern jerkins (*loricae*) for the army (cf. p. 202), belts, &c., or of wineskins (*utricularii*), and shoemakers. Here again we find division of labour. The full-dress boot worn with the *toga* by the upper classes was the *calceus*, of which there were several varieties. Ancient authorities speak of the *mulleus*, or red high-soled boot worn by the kings and assumed by Julius Caesar as part of the regal *insignia*, the *calceus patricius*, distinguished by its four latchets (*corrigiae*) and silver crescent (*lunula*, supposed to signify C = *centum*, from the original number of patrician senators), and the *calceus senatorius*, worn by plebeian senators; but it is doubtful whether the distinction between the two last was maintained in practice. The portrait-statues of senators (and even of non-senators) show one prevailing type of boot (it is worn by the priests on the relief from the Ara Pacis, Pl. LXIV A), which has the four latchets, two of which are knotted in front above the instep, the others higher up on the calf. The *lunula* is never represented. The ordinary *calceus*—a slipper with two upper flaps folded over and knotted together in front—is also shown on the monuments; e. g. it is worn by the attendants in the *suovetaurilia* of the Louvre (Pl. L). The *pero* was a shoe worn by the working class. For indoor use sandals (*soleae*, *sandalia*) were worn; we see them on the figure of the *camillus* (Pl. LXII). They were removed at mealtimes. Soldiers wore the *caliga*, a hob-nailed sole laced to the foot by a network of loops and thongs which left the toes free. The *crepida* (Gk. κρηπίς) was an easy shoe used by the Greeks which became fashionable in Rome; like the *caliga*, its 'upper' consisted in thongs only. The British Museum contains a lamp made in imitation of the *crepida*, which has been wrongly thought to represent the *caliga*. Each of these makes was in the hands of a group of craftsmen; beside the *sutores* we hear of *calceolarii*, *solearii*, *caligarii*, &c.

C. *The Industries of the* fabri.

In Latin, *faber* is a general term denoting a worker in some hard substance—wood, metal, ivory, glass, or stone; and is opposed to *figulus*, the 'modeller', or worker in soft materials, such as clay or wax. Thus *faber* is used without qualification by Cato both of the carpenter and the smith, and by Varro of the stone-mason. In many towns in Italy and the Romanized West we find

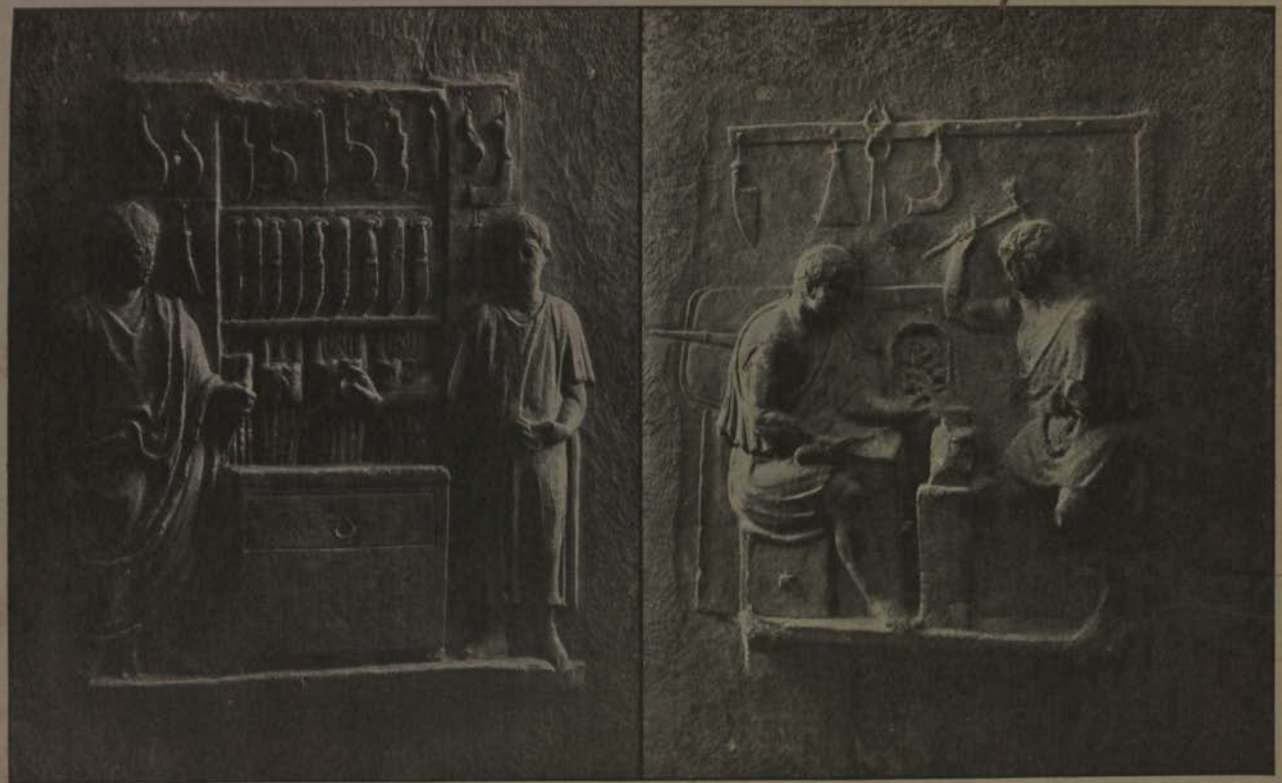
the guild of *fabri—collegium fabrorum*—either alone or in conjunction with those of the *centonarii* (cf. p. 327, n. 2) and the *dendrophori*, by whom we must understand dealers in timber,[1] organized under a *praefectus* as a fire-brigade. It is unfortunately not quite clear whether *fabri* in this case has any specialized signification; but if so, it probably means the craftsmen of the building trades. The proper term for a builder is *faber tignarius* (or *tignuarius*, from *tignum*, a beam, joist, or rafter); and even when construction in stone took the place of the more primitive building in wood, this term remained in use[2] (though *lapidarius* and *marmorarius* are also found). The shipwright was called *faber navalis*, the carpenter or joiner *faber intestinarius*, and there were specialized crafts for the production of furniture, e. g. the *fabri lectarii*, who made beds and couches.

The workers in metal form a second group. The smith was called *faber ferrarius* and his forge a *fabrica*; the coppersmith or bronze-worker—whose trade was of great importance in antiquity, since many household vessels which are now made of earthenware were in ancient times of bronze—was termed *f. aerarius*. It has been supposed that the production and sale of hardware were in different hands—the first being the business of the *faber*, the second of the *negotiator*; but there must have been many small producers in Rome who sold their own wares, as we see from the reliefs shown on Pl. LIII (from a grave-altar in the Vatican). To the right we see a cutler's smithy. An object, unfortunately too much damaged to be identified, is being forged with hammer and anvil; in the background is the furnace and to the left the bellows. Above is a rail from which hang some finished articles—a knife of the kind used in sacrifice (*secespita*, cf. the relief on Pl. VII), a triangular cutter, a pair of tongs, a pruning-hook, and a long knife. The other relief represents the shop, in which a customer is being served. In the centre is a table with a drawer, above it a row of shelves with nails, from which knives, pruning-hooks, &c., are hanging. The purchaser wears *toga* and tunic (cf. p. 329), the shopkeeper the tunic only.

It is remarkable that while *faber argentarius* is the regular term for a silversmith, the goldsmith is seldom called *f. aurarius*, but usually *aurifex*, and the guild of *aurifices* is among those whose institution is ascribed to Numa. The *aurifex* was, in fact, what we should call a jeweller, while the *argentarius* was a maker of silver plate, which came into fashion in the second century B. C.; it is described in chap. VIII, § 6. Workers in ivory were *f. eborarii*; the chief articles produced by them were tables, couches, &c., and book-covers.

[1] When the cult of Attis became popular under the early Empire (cf. p. 295), the members of this guild carried the sacred pine-tree in procession, and hence took their name; they had before been called *tignarii*.

[2] It is explicitly stated in the Digest that *f. tignarii* means not only the makers of *tigna* but 'all who build'.



Cutlers at work and in their shop.

D. *Earthenware.*

The trade of the potter (*figulus*) goes back to primitive times—we find a guild of *figuli* attributed to Numa—and was then plied by humble craftsmen ; but in the later period of Roman history this was not so. We must distinguish fine pottery (*opus figlinum*), which corresponds to the modern porcelain, from the coarser ware known as *opus doliare* ; the name is derived from *dolium*, a large jar, such as was used for primitive burials (Pl. I A) and for the storage of grain and oil, but the term includes not only vases of any shape (such as the *amphorae* in which wine was transported), but also roof-tiles (*tegulae*, *imbrices*), water-pipes, and architectural members in terracotta. The manufactories of such articles were, however, called *figlinae*. They were owned by capitalists, often members of the Imperial house. Our knowledge of them comes from the tile-stamps impressed on their products, which furnish the material for the fifteenth volume of the *Corpus Inscriptionum Latinarum*. Empresses, such as Domitia, Plotina, and Faustina, appear as the owners of *figlinae* ; and the *praedia Lucilliana* of Lucilla, mother of Marcus Aurelius (himself the owner of *figlinae novae*), comprised a number of manufactories, notably the *figlinae Domitianae*, established by her (adoptive) grandfather, the orator Domitius Afer, the tiles from which were largely used in Rome. The products of the *officina Pansiana*, between Pesaro and Rimini, which formed part of the Imperial domain, were in use throughout North Italy and Dalmatia.[1] In the second century A. D. the date of manufacture is often given on the tile-stamps, from which a *terminus post quem* may be deduced for the age of buildings. The manufacture of fine pottery, on the other hand, was carried on by master-craftsmen employing slave-designers, whose names often appear on the vases ; on these see chap. VIII, § 7.

E. *The book-trade.*

The Latin word for a book (*liber*) means 'bark', and in Pliny's account of the origin of writing we read that palm leaves were first used as writing-material, then the bark of trees, and later lead and wax. But the use of the word more probably arises from a misunderstanding. The prevailing material in ancient times was *papyrus*, manufactured from the *pith* of the plant of that name which grows in Egypt ; and the Romans may have supposed that the *rind*, not the pith, was used. Papyrus was manufactured in Egypt (thin strips of pith being laid side by side in two layers, the directions of which were perpendicular, and then glued together) and exported thence in large quantities[2] from the Alexan-

[1] The tiles used in the frontier camps and forts were manufactured in large brickworks carried on by the legions themselves, whose names appear on the tiles : thus the Rhineland was supplied from brickworks on the right bank (at Nied), and South Wales by the Second Legion at Isca (Caerleon-on-Usk).

[2] The warehouses in which it was stored in Rome were called *horrea chartaria*, the manufactured article being known as *charta*.

drian period onwards; under the Empire the raw material was imported into Rome and there made into the rolls upon which books were written. Pliny tells us that two of the better qualities—*Augusta* (also called *regia*) and *Livia*—took their names from the first emperor and empress. Another sort —*Fanniana*—was called after the manufacturer Fannius, who made improvements in the Egyptian fabric, *amphitheatrica* (so called from its place of manufacture near the Amphitheatre at Alexandria[1]). An improved quality was introduced under Claudius, who took a great interest in the manufacture (hence called *Claudia*). The breadth of the sheets (σελίδες, *paginae*), which were gummed together to form the roll, was calculated in *digiti* (16 to the foot), and owing to the brittleness of the material it was difficult to make the broader sheets strong enough to stand use without tearing; the *Fanniana* was 10 digits broad, the *Augusta* and *Livia* 13, while the *Claudia* measured one foot. The text was inscribed in columns, usually coinciding with the sheets, and the reader, holding the roll in both hands, exposed only a small portion at a time, as is shown in Fig. 58, which represents a surgeon, as may be inferred from the case of instruments which stands on his bookcase. The reader rolled up the portion which he had read with his left hand; hence, when he had finished the book, it was necessary to reroll the whole from right to left for the use of the next reader. On this ground Birt lays down the rule that in ancient art a roll, if held in the left hand, has been read; if in the right, is as yet unopened. For the convenience of readers it was necessary that rolls (βιβλία, *volumina*) should be of moderate size; and though we read of monster rolls which contained the whole of Thucydides (measuring about 250 feet in length) or Homer, the usual practice was to divide the works of an author into portions ('books') of moderate compass. The Ἀθηναίων Πολιτεία of Aristotle in the British Museum was inscribed on four rolls, the longest of which was 7 feet 2½ inches in length and contained eleven columns. Pliny states that the maximum number of sheets gummed together to form a roll was twenty (*vicenae*); but this number is often exceeded in extant papyri, and 'two hundred' (*ducenae*) has been conjectured by Birt. From 20 to 30 feet, however, is the full size of a papyrus roll. Latin writers describe the *umbilicus* (ὀμφαλός), or stick with ornamental knobs (*cornua*) round which the volume was rolled; but such have not been preserved, and the extant papyri generally have no rollers, except sometimes a reed or quill. The *umbilicus* was in fact the mark of an *édition de luxe*. The exposed edges, we are told, were smoothed with pumice and (in the finer copies) painted, and a label (*index* or *titulus*) with the name of the book was attached to the end. Valuable copies were

[1] Suetonius speaks of *Corneliana*, 'first made by Cornelius Gallus, the Prefect of Egypt', i.e. the poet and statesman who fell into disgrace under Augustus; but whatever the meaning of the statement (the name was probably complimentary) it was no doubt manufactured in Egypt, not in Rome.

kept in parchment cases (*paenulae*). Rolls were kept in boxes (*capsae*) or circular cases (*scrinia*), or they might be placed in cupboards (*armaria*) such as that represented in Fig. 58, or again in bookcases (*plutei*) with pigeon-holes (*feruli*). In public libraries the rolls were kept in niches or cupboards in the walls (cf. p. 140 f.).

In Christian times the roll was gradually superseded by the *codex*, from which the form of the modern book is derived. In Latin this word originally signifies a pile of wooden tablets (*pugillares*) coated with wax, upon which accounts or memoranda were written with the *stilus*; they were pierced with holes and strung together. Thus a ledger was called *codex accepti et expensi*. Such tablets were not, however, used for transcribing literary

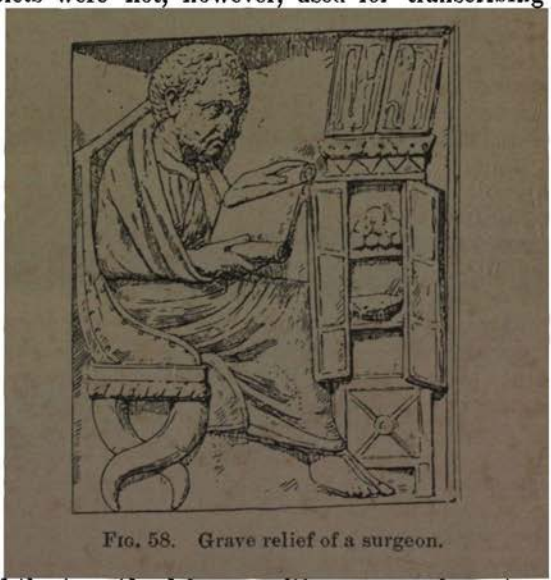


FIG. 58. Grave relief of a surgeon.

texts, and the true 'book' was written on parchment made from skins. This material had been used from early times in the East (e.g. by the Jews and Persians), where it was never superseded by papyrus. It was perfected at Pergamon under the rule of the Attalid kings; hence the name *pergamena*, which is not, however, found in extant texts until the fourth century A. D., *membrana* being always used. It was more permanent than papyrus, and when folded and bound made a volume far more easily handled than the roll.[1] Notwithstanding, its use only gradually became general in the West: at first it merely took the place of waxed tablets for accounts, &c. (hence the term *pugillares membranei* in Martial), and it was only with the spread of Christianity that it ousted papyrus.[2]

[1] Papyrus is liable to break when folded; we have, however, a few specimens of papyri in codex form. Parchment-rolls are more common. The Hebrew Scriptures are still traditionally transcribed on such.

[2] In a list of presents suitable for the Saturnalia given by Martial (xiv.

The production of books was in the hands of traders (*librarii*[1]), who employed a staff of copyists. We are told that Cicero's friend Atticus possessed a number of specially skilled amanuenses, acquired in Athens, and interested himself in the reproduction of trustworthy texts of the Greek classics (known as Ἀττικιανὰ ἀντίγραφα), and doubtless he placed the services of his slaves at the disposal of his Roman friends; but this was a hobby rather than a source of profit,[2] and the complaints of ancient authors (to say nothing of extant MSS.) prove that the commercial texts in ordinary circulation were carelessly copied and full of errors. The shops of the best-known booksellers, such as the Sosii mentioned by Horace, or Atrectus and Secundus, of whom we read in Martial, were in or near the Argiletum, which entered the Forum on its northern side by the Senate-house (cf. Map 5), and the names and prices of books were inscribed on pillars (*columnae*) beside their doors. Since copyright was unrecognized, 'pirated' editions were common, and contributed largely to the spread of MS. corruption. It cannot be proved that authors received a share of the profits derived from the sale of their works from the bookseller; but they might, and no doubt often did, sell the original MS. Seneca says: 'We talk of "Cicero's books". The bookseller Dorus calls them his own, and both are right. The one claims them as author, the other as buyer.'

We possess a considerable number of illustrated books, nearly all *codices*. The pictures of the Vatican Vergil, though painted in the fourth century A.D., go back to classical originals, and those of the MSS. of Terence, especially the Ambrosian, though of the ninth or tenth century, give valuable illustrations of the costume and gestures of the Roman actor. The only important illustrated *roll* is a copy of the Book of Joshua in the Vatican Library.

BOOKS, ETC., FOR REFERENCE.

DAREMBERG-SAGLIO, s.v. 'Mercator.'
MARQUARDT-MOMMSEN, vol. vii, 2 (Mau), 1886.
BLÜMNER, *Technologie und Terminologie der Gewerbe und Künste bei den Griechen und Römern*, 1875-87.
AMELUNG, *Die Gewandung der alten Griechen und Römer*, 1903 (text to Cyblski's plates).
BIRT, *Das antike Buchwesen*, 1882.
BIRT, *Die Buchrolle in der Kunst*, 1907.
SCHUBERT, *Das Buch bei den Griechen und Römern*, 1907.

183-96), who places them in pairs, one cheap and one expensive, the *pauperis sortes* include copies of Homer, Vergil, Cicero, and Livy, written on parchment. It is absurd to suppose that the whole of the works of each author can be meant, but there is no need to correct the text by reversing the order; selections to be understood. The passage proves that parchment was then cheaper than papyrus.

[1] *Librarius* is also used of the slave-copyist; *bibliopola* is the common name for the retail trader.

[2] Cicero's words *Ligarianam praeclare vendidisti* (*Att.* xiii. 12. 2) have often been taken to mean 'You have had a good sale for my speech for Ligarius'; but they really mean 'You have given the speech a great vogue' (i.e. by your praise of it).

CHAPTER VI

MONEY

THE original medium of exchange used throughout the Italian Peninsula and Sicily was uncoined bronze—i. e. copper with a very small alloy of tin—which was not cast in pieces of fixed weight, so that the scales were necessary in all transactions.[1] The unit of weight was the pound (*libra*, Sicilian λίτρα), and the formless lumps of bronze (*aes rude*), of which many are still in existence, have been thought (in some cases) to approximate to multiples of the Attic pound of 327·45 g. In course of time the Italian communities substituted for this rude medium either stamped ingots (*aes signatum*) of fixed weight, cast in a mould and bearing devices such as the ox, or true coins of circular form.[2] The earliest Roman coinage appears to date from 335 B. C., for we must reject not only the tradition which ascribed the earliest Roman coinage to Servius Tullius (*Servius rex ovium boumque effigie primum aes signavit*, Plin. *N. H.* xviii. 12, cf. xxxiii. 43), but also the statements of Verrius Flaccus (Fest. 237) and Cicero (*de Rep.* ii. 60), which date the introduction of coinage in the fifth century, when fixed fines for various offences were imposed by legislation. It is true that the Laws of the Twelve Tables imply a monetary unit (e. g. viii. 4, *si iniuriam faxsit*, xxv. *poenae sunto*), but this was no doubt the pound of bronze; while the artistic character of the earliest Italian coins and ingots points clearly to the fourth century B. C.

The submission of Campania and the establishment of Roman supremacy over the Latins in 338 B. C. made Rome mistress of Central Italy; and she lost no time in giving expression to this fact by the issue of a coinage for the whole of her dominions. Haeberlin's researches have shown conclusively that in 335 B. C. two mints were set up, one at Rome, the other at Capua. From the Roman mint bronze only was issued, from that of Capua silver and bronze, the latter only a token-currency. The Roman bronze coinage was based on the *as* or 'unit' (*quicquid unum est et quod ex integrorum divisione remanet*, as the ancient metrologists define it), which originally weighed one pound (the Osco-Latin pound of 272·875 grammes). This is known as the *as libralis*. The pound was divided into twelve *unciae*, and the following fractions were represented by coins: the *semis* (½ lb. marked S), *trions* (⅓ lb. or 4 *unciae*, marked • • • • or ⁘), *quadrans* (¼ lb. or 3 *unciae*, • • • or ∴), *sextans* (⅙ lb. or 2 *unciae*, • •), and *uncia* (•); the *as* and its multiples

[1] Hence the symbolical sale *per aes et libram* in *mancipatio*.

[2] It has been suggested that the ingots were not used in exchange, but only in symbolical transactions (v. note 1) or for ritual purposes.

were marked I [sometimes ⊢=*l*(*ibra*)], II, III, &c.[1] The types of the several denominations were constant. All the coins bore a ship's prow as reverse, while the obverse showed the head of a divinity, as follows:

as	Janus.
semis . . .	Saturnus (or perhaps Jupiter).
triens . . .	Minerva (Pl. LIV, 2, on the reduced standard).
quadrans. .	Hercules.
sextans . .	Mercury.
uncia . . .	Rome (or perhaps Virtue).

The Capuan mint issued silver didrachms, weighing 7·58 grammes, on the Phocaean standard, and bronze for small change; both series were marked ROMANO. This silver coinage, however, stood in no convenient relation to the bronze of the urban mint, and an important step in advance was taken when, in 312 B.C., a fresh silver standard was adopted in Campania. This was based on the *scriptulum* or scruple, weight 1·137 grammes, or $\frac{1}{240}$ of the Osco-Latin pound. Silver being related to bronze as 1 : 120, 2 *scriptula* of silver were equal in value to the libral *as*. The Capuan mint now issues both silver and *aes grave*, i.e. bronze on the Roman standard,[2] and even gold in pieces of 6, 4, and 3 scruples, with a head of Janus as obverse and a scene of oath-taking as reverse (Pl. LIV, 1).[3] The legend (after the first issue of silver) is no longer ROMANO but ROMA. On the lighter bronze coins we find the symbol of the wheel, which represents the Via Appia, now brought to completion by the Censor Appius Claudius Caecus, who may perhaps have played some part in the reorganization of the Campanian mint.

The subordination of the silver unit to that of bronze did not last long. In 286 B.C. (about) the Roman *as* was reduced to one-half of its weight in order to be equated with the silver *scriptulum*; at the same time the Campanian silver coinage became thoroughly Romanized in type. At length, in 269–268 B.C., it was determined that a silver currency should be adopted. The weight of the *as* was again reduced to 2 *unciae* (= 1 *sextans*, hence the term 'sextantal as'); and silver coinage was issued from the Roman mint in three denominations—the *denarius* (stamped X or ✳), equivalent to 10 sextantal asses, the *quinarius* (V, ⋎), equal to five asses, and the *sestertius* (IIS, HS), equal to $2\frac{1}{2}$ asses. The weights of these coins were 1, 2, and 4 scruples. As obverse they bore a head of Roma, as reverse the Castores on horseback, with the legend ROMA (Pl. LIV, 3). Besides this currency, which was in use throughout

[1] A few *dupondii* (2 *asses*) and *tresses*, and two or three *decusses* are extant.

[2] A heavier series of bronze coins, based on the Attic pound, was also issued at Capua, as well as ingots corresponding with the lighter series.

[3] The date of the earliest gold coins is placed somewhat later (after 290 B.C.) by many authorities.

the Italic communities, the Romans struck coins of 3 *scriptula* ($\frac{1}{96}$ of a lb.) in weight, named *victoriati*, with head of Jupiter as obverse, Victory crowning a trophy as reverse (Pl. LIV, 6). The *victoriatus* was in reality a drachma of the Phocaean or Campanian standard, adopted by the Romans for the purposes of trade with the Western Greeks.[1]

Towards the close of the first Punic War (241 B.C.) the weight of the *denarius* was reduced to $\frac{1}{84}$ of a pound; but no corresponding diminution in the weight of the *as* seems to have been recognized by law until 217 B.C., when in the crisis of the Hannibalic War the weight of the *as* was finally fixed at 1 *uncia*, and the value of the *denarius* at sixteen *asses*, implying a ratio of 112 : 1 as between silver and bronze. At the same time (or soon after) the issue of *quinarii* and *sestertii* ceased.

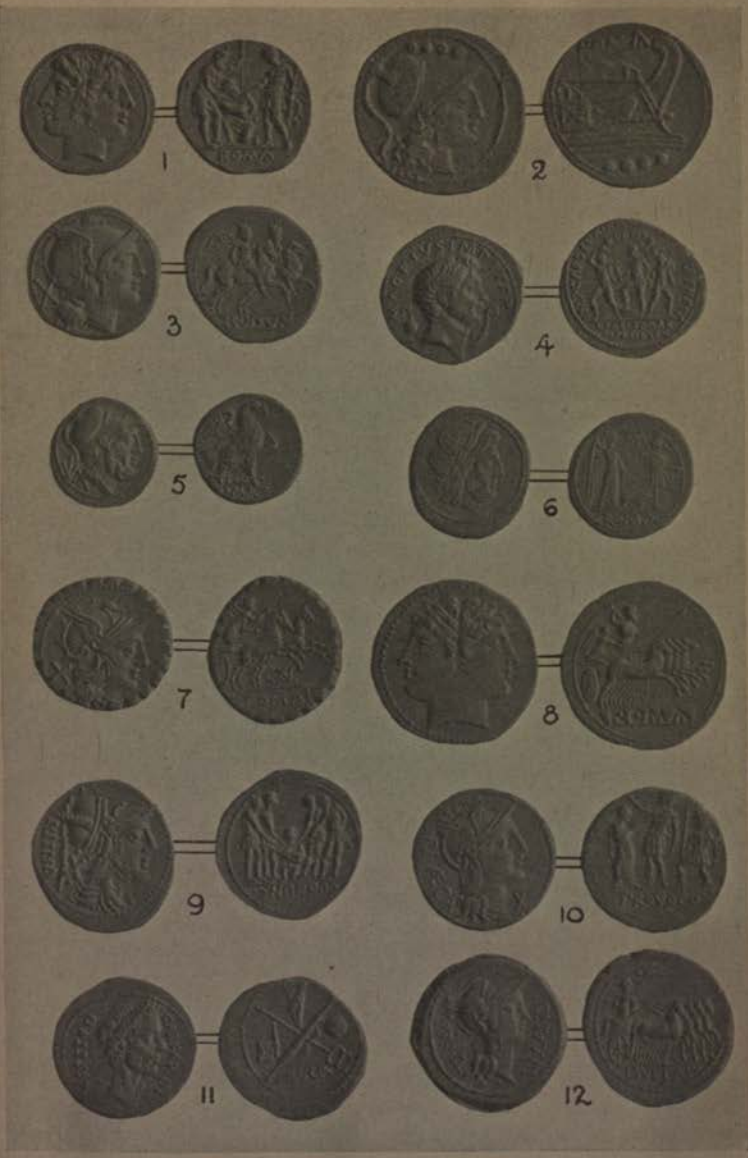
In the same year (217 B. C.), according to Pliny (*N. H.* xxxiii. 47), the first Roman gold coins (*nummi aurei*) were issued. Pliny seems to refer to the coins struck in Campania, which weigh 1, 2, and 3 scruples and are stamped with the figures ↓X (=60, cf. Pl. LIV, 5), XL, and XX denoting their value in sesterces;[2] as obverse we find a head of Mars, as reverse an eagle and thunderbolt (Pl. LIV, 5).

During a large part of the second century B. C. only the smaller denominations were issued in bronze, and towards the close of the century the *as* was further reduced in weight till it was fixed at half an ounce (*semuncia*) in 89 B. C. Besides the type of the Castores on the *denarii* we find, from about 217 to 154 B. C., either Luna in a two-horsed or Jupiter in a four-horsed chariot; hence these coins were termed *bigati* and *quadrigati* (Pl. LIV, 7, 8). From about 154 B. C. a large variety of types begins to be found, generally illustrating the traditions of the families to which the masters of the mint belonged. The *denarius* of P. Porcius Laeca (Pl. LIV, 10), struck about 90 B. C., with the inscription PROVOCO, alludes to the passing of the *Lex Porcia de provocatione* by the moneyer's ancestor of the same name in 195 B. C.

After the Social War (90–89 B. C.), during which large issues of federal coins were made by the revolted allies of Rome (Pl. LIV, 9), the independent coinage of the Italian communities naturally came to an end. Sulla seems to have suspended the issue of bronze in Rome, which was not resumed before the establishment of the Empire. From his time onwards the military coinage issued by the Roman commanders in virtue of their *imperium* becomes increasingly important, especially in gold. Sulla himself struck

[1] A few half *victoriati* (stamped IS, i. e. 1½ *sestertii*) and one double *victoriatus* have been found. The weight of the *victoriatus* was reduced in 217 B. C. and again in 104 B. C., when it practically became a reissue of the *quinarius* and was even for a time stamped V.

[2] The sesterce, being the equivalent of the old *as libralis*, took its place as the unit in monetary calculations. Hence it was called specifically *nummus*, νοῦμμος being a Sicilian term for the silver coin equivalent to the λίτρα of bronze.



Roman coins, to the death of Caesar.

1. Æ 106·1 grs. (6 scruples). Period 312–286 B.C. (?) Capuan Mint.
2. Æ 112·0 grs. Triens of uncial standard. Struck. Period 217–197 B.C.
3. Æ 66·7 grs. Denarius. Period 269–240 B. C.
4. Æ 51·0 grs. Denarius. Restoration by Trajan.
5. Æ 52·7 grs. c. 241–240 B.C. (?) 60 sesterces.
6. Æ 44·5 grs. Victoriatus. Period 229–217 B. C. (or earlier).
7. Æ 57·8 grs. Period 172–151 B. C. Denarius serratus.
8. Æ 100·6 grs. Period 286–268 B. C. Quadrigatus: Capuan Mint.
9. Æ 61·0 grs. C. Papi C., vitelia. 90–89 B. C. Denarius.
10. Æ 59·0 grs. P. Laeca. 90 B. C. Denarius.
11. Æ 60·2 grs. L. Aemilius Buca. 44 B.C. Denarius.
12. Æ 167·2 grs. Sulla. c. 82 B. C. (?) Aureus.

aurei (Pl. LIV, 12) at 30 (sometimes 36) to the pound (10·95 g. or 9 g.); those of Pompey weigh $\frac{1}{36}$ of a pound (=9 g.), and those of Julius Caesar $\frac{1}{40}$ (=8·18 g.). In 38 B. C. Antony issued bronze in six denominations, the *sestertius* (=4 *asses*, stamped HS or Δ), *tripondius* (Γ), *dupondius* (B), *as* (A), *semis* (S) and *quadrans* (• •).

Of this military coinage that of the emperors was the direct descendant. When Julius Caesar became master of Rome he set up his mint as *Imperator* in the city, and issued *aurei*, which in one (somewhat doubtful) case bore his own portrait. In this particular he followed the precedent of Flaminius, who when commanding in Greece coined Attic gold staters with his own portrait; while the heads of *Imperatores* regularly appeared on issues of the baser metals. Never before, however, had military coinage been issued in Rome itself. In 44 B. C. a further step was taken. By a decree of the Senate Caesar was authorized to place his portrait on the official urban coinage, and it is accordingly found on *denarii* issued under his rule (Pl. LIV, 11).

Under the settlement of Augustus, which was based on an arrangement made with the Senate between 15 B. C. and 11 B. C., the right of coining gold and silver in Rome was reserved to the Princeps, while the Senate was authorized to issue copper and brass, marked with the letters S(*enatus*)-C(*onsulto*). The governors of senatorial provinces, whose *imperium* was theoretically co-ordinate with that of the Princeps, continued to issue coins, and were even for a time permitted by Augustus to retain the right of portraiture; but this privilege was withdrawn in A. D. 6, after which date no portraits are found save those of the Imperial family. The weight of the *aureus* was reduced by Augustus to $\frac{1}{42}$ of a pound; while that of the silver *denarius* remained unaltered. The senatorial coinage was based on that of Antony (*supra*, p. 340) as regards its denominations: but brass (*aurichalcum*, copper alloyed with 20 per cent. of zinc) was used as well as copper, so that coins of equal size and weight would be used for different denominations (brass *as* = copper *dupondius*, diam. 30 mm., and so on). Conventional distinctions were made in the types: e. g. the emperor's head was laureate on the *as*, radiate on the *dupondius* in later times. The most notable features in the history of the Roman coinage under the Empire are (1) the growth of direct Imperial control, (2) the increasing importance of the local mints, and (3) the progressive debasement of the currency.

1. Under the Republic the supervision of the mint (*moneta*), which was established in the precinct of the Temple of Juno on the Arx (Map 3), rested with commissioners whose full title was *IIIviri auro argento aere flando feriundo*, commonly known as *IIIviri monetales*. It is, however, doubtful whether in early times this commission was permanent. Symbols distinctive of individual moneyers are found about 250 B. C., and names (at first abbre-

viated[1]) begin to appear towards the close of the same century, while (as mentioned above) types illustrating family traditions come into use about 130 B. C. The title *IIIvir a.a.a.f.f.*, however, is first applied to C. Claudius Pulcher, who was master of the mint in 106 B.C., and Mommsen believes that the office was instituted as a *permanent* magistracy about this time. The number of commissioners was raised to four by Julius Caesar, but again reduced to three by Augustus. The names of *IIIviri* of course ceased to appear on gold and silver coins when their issue was confined to the Imperial mint (p. 342), and even on the senatorial bronze coinage they are not found after 4 B. C. The office, however, continued to exist until the middle of the third century A. D., and was included in the group of twenty minor magistracies called the Vigintivirate which formed the first step in the *cursus honorum*.[2]

The supervision exercised by the *IIIviri*, however, although as their title shows it extended in theory to the coinage of all three metals, speedily became merely nominal. The Imperial mint was a branch of the Imperial household, carried on by slaves[3] and freedmen—the *familia monetalis*—and supervised by the official at the head of the *fiscus* (*a rationibus*, later *rationalis*). The mint was situated in the Third Region, not far from the Colosseum, and was of course of far greater importance than the old mint on the Capitol; indeed it seems not improbable that by the time of Trajan the latter had ceased to exist, and the whole coinage was centralized under the control of a *procurator monetae* of equestrian rank, although doubtless the profits derived from the issue of bronze were paid into the *aerarium* and thus placed at the disposal of the Senate. This change is indicated by the appearance of a new type of *Moneta Augusti* on the coins of Hadrian (Pl. LV, 6), replaced by three figures (*Tres Monetae*), symbolizing the three metals, under Commodus. The Senate was finally deprived of the right of issuing bronze—which, as will be shown, had ceased to be source of profit—by Aurelian in A. D. 274.

2. The coinage proceeding from the Roman mint, which was wholly inadequate to supply the needs of the Empire, was supplemented by other issues.

(*a*) From the time of Augustus Roman colonies outside Italy might, if permitted by the emperor or his representatives, issue bronze coins. The exercise of this privilege ceased in the West in the course of the first century A. D.;[4] but the colonial coinage of the East lasted until the reign of Aurelian.

(*b*) A number of cities and city leagues in the Eastern provinces

[1] e. g. ℙ = L F(urius) P(hilus), C·V·A = C(aius) V(arro).

[2] It is worthy of note that it was the only minor magistracy held by patricians from Domitian to Severus Alexander.

[3] Suetonius (*Iul.* 76) says of Caesar: *monetae peculiares servos praeposuit.*

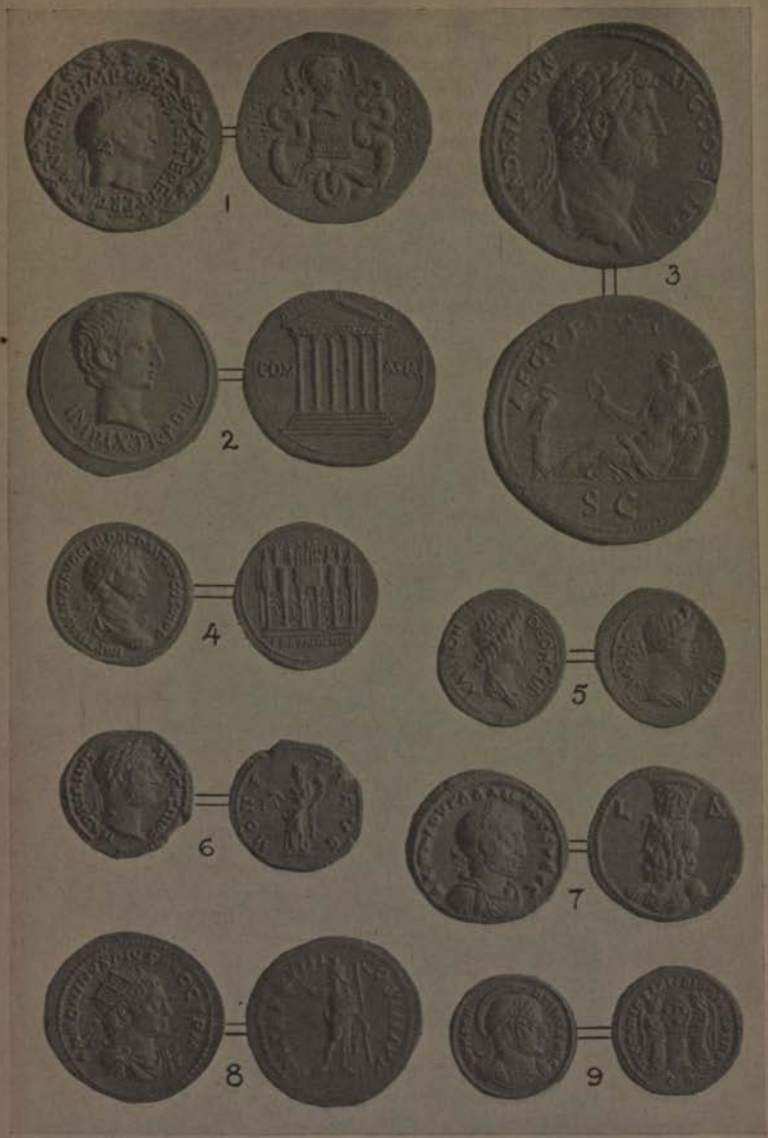
[4] The latest examples are the coins of Babba in Mauretania, struck under Galba.

were permitted to issue 'autonomous' coins during the first three centuries of the Empire. Silver was coined in large quantities at Caesarea in Cappadocia and Antioch in Syria, while the *Commune Asiae*, or representative council of the cities of the province of Asia, issued silver medallions (Pl. LV, 2) tariffed at three Roman *denarii*, as a substitute for the *cistophorus*, a coin which during the later Republic had formed the principal currency of Asia Minor. Beside less important issues of silver, an enormous quantity of bronze was coined throughout the Greek East until the third century, when the depreciation of silver rendered the privilege valueless. After the reign of Aurelian the autonomous coinage of the East ceased. The Imperial mint at Alexandria, which supplied a large part of the currency used in the Eastern provinces, cannot be classed as autonomous.

(*c*) The emperor naturally retained the right of the *Imperator* to issue coins in his provinces, and a similar privilege was enjoyed by the Senate, but seems only to have been exercised at Antioch in Syria. The Imperial coinage was doubtless issued at various places as the needs of the army and administration required, and was only gradually confined to fixed and permanent mints, each of which was placed under the control of a *procurator monetae Augusti*. It is impossible to determine the dates at which these were severally established, but it is at least certain that Lugdunum served as a mint for the Gallic provinces from the time of Augustus onwards,[1] and probable that mints were set up at an early date at Tarraco for Spain and at Siscia (Siszek on the Save) for the Danube provinces. Towards the middle of the third century A. D. mint-marks appear on the coinage, which enable us to distinguish the various issues. In the reign of Valerian a permanent mint was established at Serdica (Sofia), probably to replace that of Antioch, which fell temporarily into the hands of the Parthians in 260 A. D.; but it was transferred to Cyricus towards the close of the reign of Claudius Gothicus. Aurelian temporarily closed the Roman mint, for reasons presently to be explained; but it was reopened in A. D. 274, while the mints of Cyzicus and Serdica were both maintained and others set up at Tripolis in Syria and perhaps also at Thessalonica.[2] The result of these changes was to reduce the importance of the Roman mint; and Diocletian carried the principle to its logical conclusion when, after reforming the coinage in A. D. 296, he established mints in the several *dioceses* of the reorganized Empire.

3. It has been already mentioned that Augustus struck *aurei* weighing $\frac{1}{42}$ of a pound; these were equal in weight to two silver

[1] It is mentioned in an inscription of the reign of Tiberius (*C. I. L.* xiii. 1820).
[2] See Babelon, *Traité des monnaies grecques et romaines*, i. 1035.



Roman coins, from the Imperial period.

1. ÆR 189·0 grs. M. Antonius and Octavia. A. U. C. 715–719. 'Cistophoric Medallion.'
2. ÆR 184·0 grs. Augustus. A. U. C. 735–736. 'Cistophoric Medallion.'
3. Æ 452·8 grs. Hadrian. Sestertius.
4. AV 113·1 grs. Trajan. A. D. 114. Aureus.
5. Æ 49·2 grs. Time of Augustus to Hadrian (busts of Senate and Roma).
6. ÆR 52·2 grs. Hadrian. A. D. 128–138. Denarius.
7. Billon 182·2 grs. Gallienus. Year 4 of reign. 'Tetradrachm.'
8. ÆR 77·0 grs. Caracalla (rev. Sarapis). A. D. 215. 'Antoninianus.'
9. AV 71·3 grs. Constantine. Between Jan. 1, 315, and March 1, 317. Solidus.

denarii and in value to twenty-five. Under Nero the weight of the *aureus* was reduced to $\frac{1}{45}$ of a pound, and that of the *denarius* to $\frac{1}{96}$ of a pound; but the quality of the latter coin was debased, and the deterioration thus begun progressed until under Septimius Severus the *denarius* consisted of billon containing one-half of copper. Caracalla reduced the weight of the *aureus* to $\frac{1}{50}$ of a pound, and issued a fresh silver coin, weighing normally $\frac{1}{84}$ of a pound, to which the name *Antoninianus* is generally applied (Pl. LV, 8),[1] while continuing the issue of the debased *denarius*.[2] After his reign the deterioration of the currency progressed with alarming rapidity. Both the *Antoninianus* and the *denarius* became copper coins with a wash of silver, and wholesale frauds were perpetrated by the moneyers, who alloyed the coinage with tin, lead, and zinc. An attempt at reform was made by Aurelian, who arrested the process of debasement, and gave the *Antoninianus*—the only coin issued by him beside the *aureus*—a fixed value expressed by the symbol XX or XXI, i.e. XX·I, or 20 = 1 unit; the nature of the unit implied is uncertain. The position was thus simplified, but the effect of the reform was only temporary. Diocletian made repeated endeavours to reorganize the coinage, which ended in disastrous confusion. His first measure was to fix the weight of the *aureus*—which, since the reign of Caracalla, had become so variable that the scales must have been in constant use in commercial transactions—at $\frac{1}{70}$ of a pound. Soon afterwards he revived the silver *denarius* of $\frac{1}{96}$ of a pound (as fixed by Nero, v. *supra*), and struck *aurei* of $\frac{1}{60}$ of a pound, tariffed at 25 *denarii*. The *denarius* in its turn was to be equivalent to four *Antoniniani*, or, as they are henceforward called, *folles*.[3] It was, however, impossible to maintain this rate of exchange between the metals, and in A.D. 296 the *follis* was enlarged to the size of the old *as*, and the older issues were refused currency. In A.D. 301, when the famous edict regulating prices was issued, a decimal system was introduced. 50 *aurei* now went to the pound of gold, which was equated with 1,000 silver coins or *miliarensia*. These, in turn, were equivalent to 25 *folles* and 100 *centenionales*, a new denomination. But the ratio of gold to silver thus introduced could not be maintained, and in A.D. 303 the *aureus* was once more fixed at $\frac{1}{60}$ of a pound. Finally, Constantine brought into being the gold *solidus* of $\frac{1}{72}$ of a pound (Pl. LV, 9), which became the permanent gold currency, while the weight of the *follis* was once more reduced; and although several attempts were made by later emperors to regulate the relation of the metals, this in practice remained subject to the fluctuations of exchange.

[1] The term is only found in certain forged documents inserted in the *Historia Augusta*, where its signification is uncertain.

[2] The head of the emperor is radiate on the *Antoninianus*, laureate on the *denarius*.

[3] The term *follis* ('purse') properly signified a bag of small coins treated as an unit. In the time of Diocletian it came to be used of the single coins.

The *aes grave*, which circulated in Italy in early times (v. *supra*), was cast in moulds, as was also the heavy bronze coinage of Rome; but gold and silver coins were from the first struck from dies, and the same process was applied to the smaller denominations of bronze from about 268 B.C. Such cast coins as are found of the later Republic and early Empire must be regarded as forged; but it would seem that in the third century A.D. enormous numbers of billon coins were cast in the provincial mints of the West.[1] This practice was forbidden by statute in the fourth century A.D. as opening the door to wholesale forgery.

Plated coins, with a core of lead or iron, were issued as a temporary measure in the stress of the Hannibalic War (217 B.C.), and again in 91 B.C. on the proposal of Livius Drusus; and throughout the Social and Civil Wars the practice was continued in spite of efforts to check it. Under the emperors the issue of plated coins became increasingly common until the adulteration of the metal made the practice no longer profitable. This, as well as the debasement of the metal, accounts for the fact recorded by Tacitus (*Germ.* 5), that the Germans preferred the coins of the Roman Republic, especially the *serrati* with toothed edges, struck in 104 B.C. and for some time afterwards, and the *bigati* described above (p. 340), to the Imperial issues (Pl. LIV, 7, which is both *serratus* and *bigatus*).

We learn something of the *personnel* and technical processes of the Roman mints from inscriptions and other finds. Each mint embraced a number of *officinae*, which worked independently. At one period (during the reign of Gallienus) there were as many as twelve of these at Rome, while at Antioch fifteen were at work from 314 to 324 A.D. The products of the several *officinae* were distinguished by mintmarks, consisting in (*a*) the initial letter or letters of the name of the mint; (*b*) a letter denoting the number of the *officina*—either a Greek capital or P(rima), S(ecunda), T(ertia), &c.—and sometimes also (*c*) a symbol (lion, star, &c.) and (*d*) a secret cipher. This last is best exemplified by the coins of Probus, struck at Rome and marked RAA, REB, RQΓ, RVΔ, RIE, RTS, RIZ. It will be seen that the second letters form a mesostich which reads AEQVITI. The same pass-word is found on the coins issued at Tarraco under Probus. It has not been satisfactorily explained, but is probably to be connected with the name Aequitius Probus given to the emperor in the epitome of Aurelius Victor. We possess a series of dedications set up in A.D. 115 by various officials of the mint of Rome. It appears that the *officinatores* were controlled by an Imperial freedman called *optio et exactor auri argenti et aeris*, who was, no doubt, responsible for the quality of the metals. The *nummularii* received the bullion or foreign coin brought in to the mint, which was assayed by a *probator* and converted into bars stamped by *signatores*. Such bars have

[1] Clay moulds have been found, e.g. at Duston in Northamptonshire.

been discovered near Sirmium, where a mint was established by Constantine. The preparation of the blanks for coining was farmed out to contractors—*conductores flaturae* (*aurariae, argentariae*, &c.). The dies (*formae*) were engraved by the *scalptores*, while the actual striking of the coins was performed by *suppostores*, who placed the blank in position, and *malleatores*, who brought down the hammer on the die. These processes are well illustrated by a wall-painting found in the House of the Vettii (p. 163) at Pompeii, which represents an *officina* of Cupids. The number of persons (mostly slaves) employed in the *officinae* must have been very large, for the closing of the Roman mint by Aurelian in A. D. 271, in consequence of the frauds carried on there, provoked a rising of the *monetarii* headed by the *procurator summarum rationum* Felicissimus, who, as the chief official of the treasury, had no doubt profited by the frauds. The suppression of this revolt is said to have cost the lives of 7,000 soldiers.

It remains to mention certain exceptional forms of coinage and tokens.

1. *Medallions.* This name is given to the large pieces of gold, silver, and bronze issued by the emperors, usually with specially significant and elaborate types—e. g. the series struck by Antoninus Pius in commemoration of the nine hundredth anniversary of the founding of Rome, with scenes from the legend of Aeneas, &c. It must be noted that, though commemorative in character, these 'medallions' are true coins, being multiples of the standard units.[1] They were, no doubt, in the first instance distributed by the emperors in *congiaria* and *donativa*.

2. *Restored coins.* From the time of Titus to that of Marcus Aurelius, the emperors from time to time revived the types of their predecessors, placing their own title on the reverse with the legend REST(*ituit*). It is probable that these issues were distributed for a special purpose, notably that of Republican *denarii*, 'restored' by Trajan at the time of the second Dacian triumph. It has been suggested that the emperors used such coins in returning New Year's presents (*strenae*); one of these 'restored' coins is shown in Pl. LIV, 4.

3. '*Contorniati.*' The name (which is modern) is given to a series of large bronzes dating from the fourth and fifth centuries A. D., with projecting rims. They usually bear as obverse the head of an emperor, a historical character (especially Alexander the Great), poet (e. g. Homer), or philosopher (e. g. Pythagoras). The reverse types in most (not all) cases relate to the games of the circus and amphitheatre. They certainly had no monetary value, and are most probably to be explained as counters for use in games.

4. *Tesserae.* There are several classes of these tokens, which

[1] In the Life of Severus Alexander we hear of *formae binariae ternariae, quaternariae et denariae etiam usque ad bilibres quoque et centenarias* (i. e. coins of 2, 3, 4, 10, and 100 *aurei*) struck by Elagabalus.

are either of lead or of bronze (the latter material went out of use in Nero's reign). The most important are:—

(*a*) *t. frumentariae* and *nummariae* (Suet. *Aug.* 41), which entitled the holder to receive an allowance of corn or a money-present;

(*b*) *nomismata*, or lottery-tickets, scrambled for by the mob at festivals, which could be exchanged for food, presents, &c. (cp. Mart. i. 11. 1; xii. 62. 11, &c.);

(*c*) private *tesserae*, like the modern tokens, issued by mercantile houses, &c.

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CHAPTER VII

PUBLIC AMUSEMENTS

§ 1. Ludi, Munera, Agones.

Public shows or 'games' (*ludi*) at Rome had their origin in religious observances. In the earliest calendar we find two festivals at which horse races took place—the Equirria on Feb. 27 and March 14, and the Consualia on August 21; and both men and boys raced at the Robigalia on April 25. We may also compare the *ludus Troiae*,[1] an exhibition of horsemanship in the form of complicated evolutions performed by a troop of riders, which having been celebrated in the earliest times probably as a parallel observance to the dance of the Salii, became obsolete in the later Republic, and was revived by Augustus as an antiquarian curiosity. Yet it was not from these primitive celebrations, which took place before the altar or in the grove of the divinity concerned, that the great shows of historical Rome immediately sprang. The series of these latter, which are less closely connected with religious cult, and are as a rule held in the public place set apart for this purpose under the superintendence of the magistrates of the Roman people, opens with (1) the *ludi magni* or *Romani*. The traditions which ascribe this institution to Tarquinius Priscus or bring them into connexion with the victory of Lake Regillus are unworthy of credence; but there is some justification for regarding them as an innovation of the Etruscan kings, since they were undoubtedly connected with the worship of Jupiter Capitolinus; the *epulum Iovis* on Sept. 13, which commemorated the foundation of the Capitoline temple, formed part of the celebration. It is almost certain (as Mommsen showed) that these were at first *ludi votivi*, vowed by the commander of the Roman armies when they set out on their campaign and celebrated as an adjunct of his triumph on their victorious return. This explains why the *pompa circensis*, or solemn procession, in which the images of the gods were borne to the *circus*, was closely modelled on that of the triumph, and also why the presiding magistrate at the games wore the garb of the *triumphator*. In course of time, however, it became customary to celebrate such games in the autumn, even though no victory worthy of a triumph had been gained in the annual campaign, and at length they became an annual festival,[2]

[1] The word *troia* or *truia*, the meaning of which is obscure, had originally no connexion with Troy. An Etruscan vase bears the inscription *truia* beside the figures of two armed horsemen.

[2] Hence Livy (i. 35. 9) says: *sollemnes, deinde annui mansere ludi Romani magnique varie appellati.* The term *ludi magni* came to be reserved for *ludi votivi*

conveniently placed in September, which was a period of comparative rest in the farmer's year, and gradually increased in length from one to sixteen days. Most probably the date of the institution of *annual* games was 366 B. C., when curule aediles were first appointed as *curatores ludorum sollemnium*.

Next to the *ludi Romani* in antiquity come (2) the *ludi plebeii*, which were always celebrated in the Circus Flaminius, and have therefore been considered by many modern writers to be coeval with its construction in 220 B. C. There is, however, no proof of this, and traditions, varying in detail, agree in making these games much more ancient. Like the *ludi Romani*, they were connected with the Capitoline Jupiter, and an *epulum Iovis* was held (at least since 196 B. C.) on Nov. 15, the festival lasting in the later Republic from the fourth to the seventeenth of the month. They were managed by the plebeian aediles, as were also (3) the *ludi Ceriales*, which cannot be proved to have existed as a regular institution before the Hannibalic War. The temple of Ceres, however, a divinity specially dear to the *plebs*, was traditionally founded in 496 B.C., and it may well be that *ludi votivi* were celebrated at intervals in her honour from early times. They lasted from April 12 to 19. With them we may class (4) the *ludi Florales*, which were likewise a plebeian festival, instituted in 238 B. C. on the foundation of the temple of Flora, an old Italian deity closely akin to Ceres. These, again, were at first occasional, but became annual in 173 B.C. They lasted from April 28 to May 3.

The *ludi Florales* were first instituted in time of dearth ; and the calamities of the second Punic War led to the addition of two more *ludi* to the festival calendar. These were (5) the *ludi Apollinares*, celebrated in 212 B.C. in response to an oracle contained in the collection called *Carmina Marciana* (and confirmed by inspection of the Sibylline books), and established as an annual festival on July 13, 208 B. C. They were gradually lengthened to eight days (July 6–13), and were held in the Circus Maximus under the presidency of the *praetor urbanus*. Lastly, in 204 B. C., (6) the *ludi Megalenses* were instituted in honour of the coming of the Great Mother (p. 288). They were held on the Palatine, and when the temple of Cybele was built (191 B. C.), they became a regular festival, to which were added shows in the Circus as well as the celebrations in front of the Palatine temple. They lasted from April 4 to 10 in later times.

To those six *ludi*, which had a definitely religious character, there were added in later times a number of celebrations established for the personal glorification of the successive rulers of Rome. The precedent was set by Sulla, who founded the *ludi Victoriae Sullanae* in memory of his victory at the Colline Gate (Nov. 1, 82 B. C.); they lasted from Oct. 26 to Nov. 1. His example was followed by Julius Caesar, who established the

specially vowed by a military commander, generally (like those celebrated by Pompey in 70 B. C.) lasting for fifteen days.

festival called either *ludi Victoriae Caesaris* or *l. Veneris Genetricis*, since they were first celebrated on the occasion of the dedication of the temple of Venus Genetrix (Sept. 26, 46 B. C.). They were afterwards transferred to July (probably on the reform of the calendar), and lasted eleven days (July 20–30). Augustus did not commemorate the victory of Actium by any permanent addition to the calendar of festivals, though a four-yearly celebration (after the fashion of the Greek πεντετηρίς) under the name of *ludi Actiaci* took place during his reign, superintended by the four Great Colleges of priests in rotation ; but besides two days of *ludi circenses* in honour of Mars (on May 12 and August 1) and one in honour of the emperor's birthday (Sept. 23) the *ludi Augustales*, instituted in commemoration of Augustus's safe return from the East, and the foundation of the Ara Fortunae Reducis (19 B.C.), and formally included in the calendar on the death of the emperor as the *ludi Divi Augusti et Fortunae Reducis*, lasting from Oct. 3 to 12.

By this time the festivals accompanied by public shows accounted for nearly three months of the year, and additions were often made to the list ; the birthday of the reigning emperor was always thus celebrated, and if he became *divus*, the festival became permanent, and the *dies imperii* was also a public holiday. The *ludi Parthici*, instituted by Hadrian in honour of Trajan's victories over the Parthians, was the prototype of a number of similar games established by the fourth-century emperors. Some efforts were made by emperors, such as Nerva and Marcus Aurelius, to check the increase in the number of public holidays, and some of the earlier *ludi*, such as those in honour of the victories of Sulla and Caesar, were struck out of the list ; but the 'Calendar of Philocalus', which belongs to A.D. 354, gives 175 holidays, occupying nearly half the year. It must be remembered, too, that special *ludi* were celebrated in honour of Imperial achievements or victories, such as the Hundred Days games of A.D. 80 at the inauguration of the Colosseum, and the shows lasting 123 days. exhibited by Trajan on the occasion of his second Dacian triumph (A.D. 106) ; nor must we omit to mention the *ludi saeculares*, which celebrated the beginning and end of a *saeculum*—i. e. the period covering the lifetime of every individual born at a certain date (arbitrarily fixed), which was variously estimated at 100 or 110 years. The history of these celebrations under the Republic it is impossible to trace with certainty, since the traditions were doctored by the theologians of Augustus's time in order to permit of the games being held in 17 B. C. ; but we know that (apart from the public shows) acts of worship were performed at the altar of Dis and Proserpine in the Campus Martius according to the rites prescribed by the Sibylline books. Later emperors made the celebration of the *ludi saeculares*, 'which none had seen before, and none would see again', the occasion for magnificent spectacles, and special calculations were made to justify them in holding the

festival before the natural time. The last, and perhaps the most gorgeous, display was that given by Philip the Arabian in A.D. 247, on the conclusion of ten *saecula* (1,000 years) since the foundation of Rome. Besides the *ludi publici* there were also *ludi privati*, such as the funeral games (*ludi funebres*) celebrated by the heirs of the great statesmen and soldiers of the Republic, and those given by senators and others anxious to court popular favour on occasions of public rejoicing under the emperors (*pro salute principis*). The term *munera* is specially applied to shows given at the expense of private persons, or to those not connected with religious festivals. Under the Empire the duty of giving *munera* (in the shape of gladiatorial shows) was imposed on the *quaestores designati*, i.e. young men at the outset of their official career; they took place regularly in December; and the consuls were expected to provide entertainments at least once during their term of office. Lastly, there were many efforts to introduce into Rome athletic, musical, and literary contests after the Greek model, under the name of *agones*, beginning in 186 B.C., when M. Fulvius Nobilior brought over Greek athletes to perform in Rome. Sulla, Pompey, and Caesar followed his example, and, as was said above, Augustus instituted a πεντετηρίς in commemoration of the victory of Actium; but the Greek *agon* never became really popular in Rome. Nero, in A.D. 60, instituted a triple festival—with musical and athletic contests and horse-races—to be held every five years under the title of Neronia; and though this was dropped after his death, it was revived in a new form by Domitian, who in A.D. 86 founded the *Agon Capitolinus* on the model of the Olympic festival. The most notable feature of this was the contest in Greek and Latin poetry, for which the prize was an oak wreath presented by the emperor.[1] For these *agones* Domitian built the covered theatre known as the Odeum in the Campus Martius.

Setting aside the *agones*, the public spectacles of Rome were of two kinds, *ludi circenses* and *ludi scaenici*. The latter will be described under the head of drama; the former included not only the chariot-races of the *circus*, but also the gladiatorial shows and beast-hunts (*venationes*) which, under the Republic, took place in the Forum, and afterwards in temporary or permanent amphitheatres, and the *naumachiae* or sea-fights, for which special buildings were constructed (p. 367). Under the Republic there was a large preponderance of dramatic performances; taking the public *ludi* in existence before Caesar's dictatorship we find forty-eight days allotted to *ludi scaenici*, and only fourteen to racing (besides two to 'trials', *equorum probatio*). The Calendar of Philocalus, on the other hand, assigns 101 days to theatrical performances, 64 to chariot-races, and 10 to the gladiatorial shows given by the quaestors-designate.

[1] The tradition of these contests was preserved in the coronation of poets on the Capitol in the Middle Ages.

The sums expended on these entertainments were very large. For the *ludi publici* a grant was made by the State to the presiding magistrate (called *lucar*, because it was derived from the produce of the sacred *luci*); e.g. in 51 B.C. 760,000 sesterces were voted for the *ludi Romani*, 600,000 for the *ludi Plebcii*, and 380,000 for the *ludi Apollinares*. But these grants were always supplemented from the private resources of the exhibitor (*editor*), and ambitious politicians such as M. Aemilius Scaurus (aedile in 58 B.C.) or Milo, who spent 'three patrimonies' on the private games which he celebrated in 54 B.C., vied with each other in the extravagance of their displays. In 22 B.C. the *cura ludorum* was transferred from the aediles to the praetors, and repeated efforts were made by the emperors to check extravagance; Augustus, for example, in 17 B.C. limited the praetors to the expenditure of a sum three times as large as the State grant. The emperors, too, often assisted the givers of games from their private purse. Nevertheless, the lavish expenditure of wealth continued to increase, and in the fourth century we find Symmachus celebrating his son's praetorship by spending 2,000 lb. of gold (about £90,000) on seven days' games.

Possibly some portion of the sums expended was covered by the sale of places, which is proved to have taken place even at the public games by literary and epigraphic evidence. Priests, magistrates, and specially honoured individuals (and their descendants) had reserved seats, which they were allowed to let for hire, and the populace were of course admitted free. But it seems that there was also a brisk traffic in reserved places, which were often bought up by speculators (*locarii*). The exhibitors frequently gave presents—generally either eatables or tickets (*tesserae*) exchangeable for meals or commodities—to be scrambled for by the poorer spectators.

§ 2. Racing.

The *circus maximus* at Rome, as explained in chap. II, § 7, traditionally dates from the reign of Tarquinius Priscus; and there is no reason to doubt that chariot-racing was the earliest form of amusement provided for the Roman people. The procession with which the *ludi circenses* opened was (as has already been explained) closely modelled on that of the triumph, and dates from the time when the two ceremonies coincided. The magistrate who acted as *editor* headed the *pompa*, clad in the embroidered *toga* and *tunica* of the *triumphator*, bearing an ivory sceptre crowned by a golden eagle, and attended by a slave who carried a golden crown of oak leaves. If a consul or praetor he drove a two-horse chariot (*biga*). He was followed by his clients in the *toga candida*, and the youth of Rome in troops of foot and horse. Next came the performers who were about to take part in the games—chariots with their drivers, horsemen, and dancers, all accompanied by musicians, and after them the *collegia* of priests, with the bearers of incense and sacred vessels, and the images of

the gods, which were borne either on stretchers (*fercula*) or in *tensae* (such as that shown in Pl. XLIX) driven by boys of noble birth whose parents were living (*pueri patrimi et matrimi*). Julius Caesar received the unprecedented honour of seeing his image carried in a *tensa* together with those of the gods; and in later times the statues of deified emperors and empresses (these latter carried in *carpenta* or closed two-wheeled carriages) figured in the procession, which set forth from the Capitol, and passing through the Forum and the Vicus Tuscus and the Velabrum to the Forum Boarium (cf. Map 3), entered the circus at its south-western extremity, made a circuit of the *arena*, and returned to the *tribunal editoris* (cf. p. 137).

In early times the games which followed lasted but a short time. Only a single chariot-race (*missus*) was customary, according to Livy, in B. C. 169. But by the time of Augustus ten or twelve *missus* were held in one day, and in A. D. 37 Caligula celebrated games in which twenty and twenty-four *missus* took place. The latter became the usual number, and the games now occupied the entire day; there were intervals after the sixth and twelfth races for the convenience of the spectators. The races were started by the presiding magistrate by waving the *mappa*, a linen cloth, which is represented in some late honorary statues, and usually consisted in seven laps (*curricula*). The distance must, however, have been shortened when the number of races was increased, as they often were. In the 'Calendar of Philocalus', which gives the number of *missus* held at the various *ludi*, we usually find twenty-four; but on a few days there were thirty, thirty-six, or even forty-eight —where two festivals, such as the birthday of Trajan and the victory of Constantine over Licinius, coincided in date. Possibly in such a case the number of *curricula* was curtailed, as it was by Domitian in the shows of 100 *missus* which he gave at the *ludi saeculares*.

The chariots were built as lightly as possible, of wood and bronze, and were commonly drawn by two (*bigae*) or four horses (*quadrigae*); but the inscriptions show that the expert drivers of the Empire could manage teams of six, seven, or ten horses. Fantastic races of chariots drawn by camels, elephants, lions, &c., were held by Nero and Elagabalus. The number of chariots competing in each race varied, according as each of the companies (*factiones*) to be mentioned presently was represented by one, two, three, or four chariots. The drivers (*aurigae*) wore a short tunic —unlike the long garment of the Greek charioteer—a tightly fitting cap, and a number of leathern thongs (*fasciae*) laced about the body and thighs as a protection in case of accident. In the thongs which bound the waist was stuck a knife (*falx*), with which the charioteer could cut the reins (which were worn looped round the waist) in case of emergency. This costume is illustrated by a statue in the Vatican (Pl. LVI) which, however, does not possess its original head. Their skill was chiefly shown in negotiating

the sharp turns at the extremity of the *spina* (Fig. 26). The horses in the centre of the team (*equi iugales, introiugi*) were of less importance in these moments of danger than the trace-horses (*equi funales*), which were accordingly selected with the greatest care. The varying tactics of racing were familiar to the *aurigae*, who record in their inscriptions how they 'made all the running' (*occupavit et vicit*), 'snatched a victory on the post' (*eripuit et vicit*), and so forth. A chariot-race is shown in progress on a terra-cotta relief in the British Museum (Fig. 58 A).

We know little or nothing of the organization of chariot-racing in the days of the Republic. Originally the chariots were the

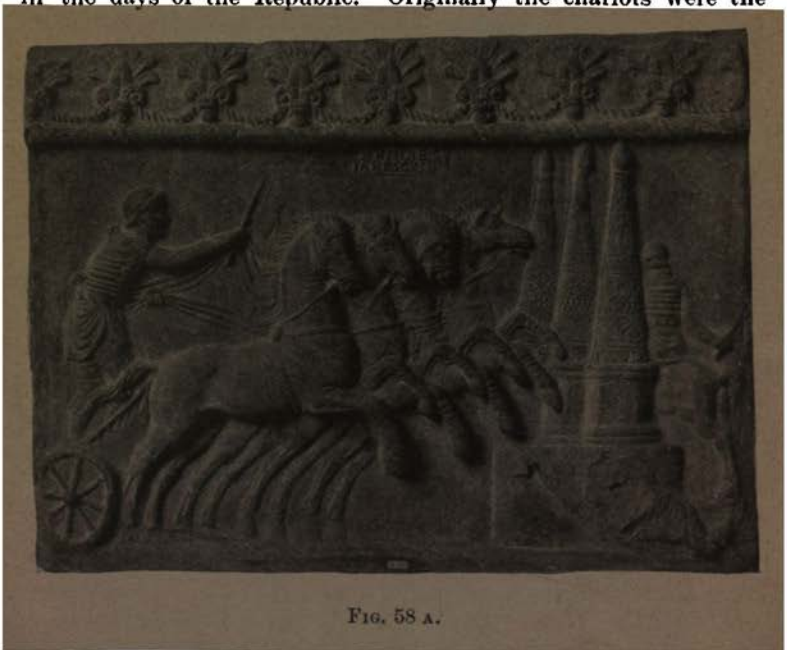


FIG. 58 A.

property of individual citizens; a law of the XII Tables, quoted by Pliny (*N. H.* xxi. 7), relaxed the severity of the sumptuary restrictions on burials so far as to allow the crowns won in the games to be buried with their owners. But before the close of the Republic companies (*factiones*) had been formed, whose members entered into contracts with the magistrates responsible for holding the games. Originally there were two such companies, distinguished by the white (*albata*) and red (*russata*) liveries of their drivers; a story, quoted by Pliny (*N. H.* vii. 186) from the *Acta diurna*, presupposes their existence about 75 B. C. To these were added the green (*prasina*), first mentioned under Caligula, and the blue (*veneta*), of which we hear under Vitellius; and these latter soon overshadowed the older colours in importance, so that at length the Whites entered into an alliance with the Greens and

Statue of charioteer.

the Reds with the Blues. Domitian is said to have introduced two fresh colours—gold and purple; but though the latter is mentioned in a single inscription, we hear no more of them, and it may be supposed that they did not survive his reign. The excitement aroused in Rome by the struggle of these *factiones* was far greater than that which accompanies horse-racing in England, since it was enhanced by party rivalry. The favour of those amongst the emperors who were infected with this passion was usually bestowed upon the Greens; the fashion was set by Caligula, who, as we are told, caused the horses of the rival factions to be poisoned; and Nero, Domitian, L. Verus, Commodus, and Elagabalus were on the same side. The chief patron of the Blues was Caracalla.

We learn something of the achievements of the famous *aurigae* (or *agitatores*) from the inscriptions set up in their honour. The earliest of these is that of Scorpus,[1] a driver of the Whites, whose record is given year by year from A. D. 13 to 25; he gained seven victories, was 'called back' four times, placed second twenty-nine times, and third sixty times. These numbers are small compared with those which we shall meet with; but we must remember that Tiberius did little to provide amusement for the populace. Crescens,[2] a Moor, whose career began at the age of thirteen, and lasted from A. D. 115 to 124, drove in 686 races and won forty-seven victories; of these we are told that thirty-eight were 'snatched' on the post, while in eight races Crescens 'made all the running' (*occupavit*) and in one only allowed his opponents the start. He was placed second in 130 races and third in 111. His gains amounted to 1,558,346 sesterces (about £15,600). But the most famous of Roman *aurigae* was the Lusitanian, C. Appuleius Diocles,[3] whose triumphs are recorded in a lengthy inscription set up by his admirers at the close of his career, when he was forty-two years old. He had attained the crowning ambition of the *auriga*—that of being counted amongst the *miliarii*, or winners of 1,000 or more races—and his winnings amounted to 35,863,120 sesterces.

Diocles, as it would seem, was born about A. D. 104, and began his career in A. D. 122 as a driver of the Whites, and won his first victory two years later. In A. D. 128 he drove for the Greens for the first time; and in A. D. 131 he began his victorious career as the leading representative of the Reds, for whom he won 960 victories. Together with 216 gained for the Greens, 205 for the Blues, and 81 for the Whites, this made a grand total of 1,462 victories in 4,257 races. This was by no means the highest number recorded, but victories were weighed as well as counted, and Diocles is at great pains to show that when the nature of his

[1] *C. I. L.* vi. 10051 = Dessau, 5283.
[2] *C. I. L.* vi. 10050 = Dessau, 5285.
[3] *C. I. L.* vi. 10048 = Dessau, 5287.

successes is taken into account he need fear no comparison. For example, the races in which each *factio* was represented by a single chariot (*singularum*) were of greater importance than those in which two or more chariots belonging to each faction competed (*binarum, ternarum, quaternarum*); and Pontius Epaphroditus, the driver of the Blues, who had 1,467 victories to his credit, could count but 911 of the first class, whilst Diocles numbered 1,064. Again, the value of the prizes varied, being sometimes as high as 50,000 or 60,000 sesterces (£500 or £600); and in this respect Diocles is compared with the charioteers of the past. Three of these, one whose name is lost, a winner of 1,025 races, Scorpus (who is mentioned by Martial), with 2,048 victories, and Pompeius Musclosus, with 3,559, could, for all their 6,632 wins, count only 28 prizes of 50,000 sesterces, whilst Diocles gained 29 such. Amongst the famous drivers of Diocles's own *factio*—the Reds—were Thallus, who seems to have held the record for victories gained in a single season, and Avilius Teres, the first *miliarius* of the Reds, who had 1,011 wins to his credit. Both these are known to us from other inscriptions. Thallus was the slave of L. Avillius Planta, evidently one of the directors of the Red *factio*; and Teres, as his name shows, must have been a freedman of the Avillii, who are mentioned in other inscriptions as patrons of the Reds. Diocles boasts that his season's record, 134 wins, including 118 *singularum*, surpassed that of Thallus, and compares his first season with over 100 victories with that of Teres. The last of the famous charioteers whose career is known is P. Aelius Gutta Calpurnianus, whose tombstone[1] was seen and its inscription copied by the monk of Einsiedeln who visited Rome in the ninth century A. D. He gained 1,127 victories—102 for the Whites, 78 for the Reds, 583 for the Blues, and 364 for the Greens—and of these 575 belonged to the class *singularum*. Only once, however, did he gain a prize of 50,000 sesterces.

The horses which ran in the chariot-races attained a celebrity only second to that of the drivers. They were put into training as three-year-olds, and were first raced at five years; this accounts for the length of their careers. The names of the most famous, and their achievements, are recorded in the inscriptions cited above, especially those of Diocles and Gutta. We hear that Tuscus, driven by Fortunatus of the Blues, gained 386 victories, and Victor, a chestnut, driven by Gutta for the Greens, gained as many as 429. Diocles, however, who tells us of this last performance, boasts that his horse Pompeianus, which won 152 races, achieved greater distinction by gaining ten prizes of 50,000 sesterces and one of 60,000, as against the nine of 50,000 which fell to the lot of Victor. Cotynus, another famous animal, is mentioned in the inscriptions of three *agitatores*—Crescens, Diocles, and Scorpus. Horses were bred for the circus in Southern Italy (where Tigellinus had his stud) and Sicily; but the most famous

[1] *C. I. L.* vi. 10047 = Dessau, 5,288.

breeds were those of the provinces—Cappadocia, Syria, Greece, Africa, and Spain. An inscription which gives the name and breed of forty-two horses driven by Avilius Teres (see above), mentions thirty-seven *Afri*, two *Lacones*, one *Maurus*, one *Hispanus*, and one *Gallus*. Ordinary horse-racing was unknown in ancient Rome, but we hear of *desultores*, or trick-riders, who raced with two horses, vaulting from one to the other; their performances took place either before or between the *missus* of the chariots throughout the classical period, but aroused comparatively little interest.

§ 3. Gladiatorial Shows.

The institution which to modern minds appears the darkest blot on Roman civilization was not of native origin in Rome. According to tradition, the practice of pitting slaves or prisoners of war against each other in mortal combat was introduced into Italy by the Etruscans at the funeral games of their nobles; and there are representations on their sepulchral urns which confirm the truth of this statement. It may well be that the Romans borrowed this custom directly from their northern neighbours; at any rate, the first recorded example of a gladiatorial show in Rome was an exhibition of three duels between pairs of swordsmen at the funeral games (*ludi funebres*) of Brutus Pera, celebrated in 264 B.C. by his two sons; and for a full century and a half after this date gladiators were only exhibited at such private celebrations, the chief of which were the games celebrated by Flamininus, the liberator of the Greeks, at his father's obsequies. Notwithstanding, there is some ground for the view that the Campanians played an even more important part than the Etruscans in the history of gladiatorial shows. It was doubtless from the Etruscans, whose influence extended in early times as far south as the Bay of Naples, and was predominant until the close of the fifth century B.C., that the Oscans learnt the practice; but they carried it even further than their teachers, for we hear that gladiators were shown not only at funeral games but also at banquets, and it has already been pointed out (p. 128) that the amphitheatre itself is in all probability a Campanian invention. Livy tells us that after a victory gained by the Romans and their Campanian allies over the Samnites in 310 B.C. the Campanians used the arms of their fallen enemies to equip their gladiators, whom they called 'Samnites'; and whether this story be true or not, it accords well with the fact that the 'Samnite' was the earliest and for some time almost the only type of gladiator exhibited in Rome. The Samnite armour, as described by Livy in the passage quoted, and represented on monuments such as the wall-paintings of Paestum, was certainly copied in essentials from the equipment of the 'Samnite' gladiator. He was armed with the sword and *scutum* (cf. p. 198), and wore a helmet (*galea*) with side-feathers (*pinnae*) and high crest (*crista*), and a greave or leg-guard (*ocrea*) on the left leg only—agreeing so far with the description of Livy. He wore

no cuirass or tunic, however, but only a loin-cloth or drawers (*subligaculum*) girt about the waist with a belt (*balteus*), and an arm-guard formed of strips of leather (*manica*) upon his right arm. It has been observed that the name *Samnes* is never used by post-Augustan writers (it is last used by Horace); but the type certainly continued to exist, for Juvenal[1] mentions the

> *balteus et manicae et cristae crurisque sinistri*
> *dimidium tegimen,*

and we find them represented on many monuments of the Empire. The explanation is not far to seek. In Republican times a duel of Samnite against Samnite contented the public taste; under the Empire more variety was demanded; and the swordsmen, under fresh names, were pitted against fresh antagonists. Thus the (*h*)*oplomachus*, often mentioned in literature and inscriptions, is nothing but the *Samnes* of earlier times; but his adversary is almost always the 'Thracian', to be described presently. Moreover, the *secutor*, first mentioned in Suetonius's life of Caligula[2], is shown on a relief as a heavy-armed fighter; but he owes his name to the special tactics which he followed as a 'pursuer' of the *retiarius*. This latter was armed for offence with a net (*rete*), in whose meshes he endeavoured to entangle his opponent, and a trident (*fuscina*); for defence he wore only the *subligaculum* and *manica*, but this was fixed on the left instead of the right arm, and had attached to it a projecting shoulder-piece (*galerus*), which served to mask the face, in place of a helmet. The net was furnished with a cord (*spira*) by which it could be drawn back if the first cast failed. The *secutor* is sometimes indicated on inscriptions by the symbol >RET. (i. e. *contraretiarius*).

The Thracian (*Thraex*) was introduced by Sulla on his return from the East, when he brought with him a number of prisoners taken in Thrace during the first Mithradatic War. His equipment is partly illustrated by the grave-relief of one M. Antonius Exochus, now lost, but reproduced on Pl. LVII from a drawing in the Royal Library at Windsor; to the left is seen the short scimitar or *sica*, which he carried in place of a sword; to the right the helmet surmounted by the figure of a griffin, with its perforated vizard turned up. The *balteus*, *subligaculum*, and *manica* are also shown; and he wears richly decorated[3] greaves (*ocreae*) on *both* legs, and apparently leathern breeches (*fasciae*) as well. He thus had more protective armour than the *hoplomachus*; but this was needful, because he had only a small shield (*parma*), round,

[1] vi. 256.

[2] The word *secutorum* has been introduced by some editors into the text of a letter of Cicero (*Att.* vii. 14. 2) in place of *scutorum*; but Cicero, who here tells us that Caesar had '5,000 shields' at Capua, means by this colloquial term 'heavy-armed fighters'.

[3] Several specimens of highly ornamental armour—particularly helmets and greaves—of the kind worn by gladiators exist in museums, e. g. at Naples (from Pompeii) and St. Germain-en-Laye.

square, or even triangular in shape (not shown in the relief). The frequent contests between the *hoplomachus* and the *Thraex* gave rise to the formation of parties in the amphitheatre such as those which grouped themselves about the *factiones* of the circus; and the *parmularius* was a supporter of the 'Thracian' against the bearer of the *scutum*.

Another national type was the *Gallus*. It has been thought that the Gaul was introduced into the arena by Julius Caesar; but Livy quotes a saying of Cato the censor which implies that a 'dying Gaul' might be seen in gladiatorial exhibitions as early as 184 B.C.; and it is reasonable to suppose that the Etruscans treated the Celts of Northern Italy in the same manner as the Campanians dealt with their Samnite prisoners. We are expressly told by a good authority that the *Gallus* was afterwards known as the *murmillo*. This is a term derived from the name of a fish, which was represented on the helmet of the *Gallus*; and Festus says that the *retiarius*, when attacking the *murmillo*, sang the doggerel verse—

Non te peto, piscem peto, quid me fugis, Galle?

The *murmillo* is mentioned several times by Cicero, and seems to have been gradually differentiated from the *Gallus*, since both are mentioned in the same inscription. There is a difficulty with regard to the equipment of the *murmillo*. Ammianus Marcellinus (writing in the fourth century A.D.) compares the Parthian infantry, who were clad in coats of chain-mail, to the *murmillones*; and Tacitus speaks of Gaulish slaves trained to serve as gladiators who wore *continuum ferri tegimen*. These passages would lead us to suppose that the *murmillo* was heavily armed. On the other hand, it is well known that the Gauls disdained defensive armour; and, what is more important, the monuments lend no support to the contrary view. The only relief (now in St. Petersburg) which is declared by its inscription to be that of a *murmillo* represents a gladiator clad in the *subligaculum* only; but there are others on which we see light-armed combatants wearing a tunic, whom there is reason to believe to be *murmillones*. For instance, the relief from Chieti (Pl. LVIII) shows at the left extremity of the frieze two such gladiators, wearing a low helmet, *manica*, and tunic, and carrying a small round shield: they are evidently neither Thracians nor *hoplomachi*, both of which types are clearly depicted in the reliefs, and it is hard to see what name to give them save that of *murmillo*. The round shield must then be the *scutum murmillonicum* of which we read in Festus. The usual adversary of the *murmillo* was the *retiarius* in the first century A.D., afterwards the *Thraex*.

The types above described were those most commonly engaged in gladiatorial combats: of the rest we know but little. The *provocator*, mentioned by Cicero, is represented on one monument only, and then in Samnite equipment. The *laquearius* differed

Tomb-relief of M. Antonius Exochus, a *Thraex* (from a drawing in the Royal Library at Windsor).

from the *retiarius* only in the fact that his weapon of offence was the lasso and not the net. The *dimachaerus*, as the name shows, was armed with two cutlasses. The *velites* were called after the light-armed troops of the Roman Republic, and, like them, used the javelin fastened with a thong (*hasta amentata*). *Equites*, or mounted gladiators, are mentioned in literature, and represented with vizarded helmets, small round shields, tunics and guards for arm and thigh; their weapon was a lance. *Essedarii* fought in chariots, after the manner of Gauls and Britons. They are first mentioned in Cicero's letters, and were perhaps introduced into Rome by Julius Caesar, who describes the tactics of the British charioteers (*B. G.* iv. 33).

The relief shown on Pl. LVIII decorated the façade of a tomb at Teate (mod. Chieti), which seems to be identified by an inscription as that of C. Lusius Storax, a freedman who enjoyed the dignity of *sevir Augustalis*, i.e. priest of the Imperial worship, and as such doubtless exhibited the *munus gladiatorium* here represented.[1] On the slabs which form the pediment we see the *editor muneris* seated in the centre of a group of persons, four of whom—two on either side—occupy *bisellia* and may be identified as the chief magistrates—*quattuorviri iure dicundo*—of the *municipium* of Teate; the two lictors in the background are in attendance on the *editor*, who enjoyed the privileges of a magistrate on the occasion of the *munus*. At either end of the pediment is a group of musicians—trumpeters (*tubicines*) to left, hornblowers (*cornicines*) to right—whose function it was to rouse the ardour of the gladiators[2]; between the trumpeters and the central group the crowd of excited spectators is represented by four figures whose gesticulations betray the keenness of their interest in the fighting, and these are balanced by a group of attendants engaged in unpacking a box which no doubt contained *missilia*, or presents provided by the *editor* and scrambled for by the populace. The scene is indicated by a façade of Doric columns, best interpreted as the front of a temple, basilica, or senate-house in the Forum of Teate, which may have been without an amphitheatre when the relief was made. The gladiatorial combats are represented on the slabs of the frieze, of which that in the centre is unfortunately mutilated. For the most part the combatants are to be classed either as 'Samnites' (or *hoplomachi*) or 'Thracians.' Thus on the extreme right we have a group of four fighters, two of whom wear the helmet with feathers, *manica*, *subligaculum* with belt, and leg-guard on the left leg only, and carry the *scutum*, whilst the others have guards and *fasciae* on both legs, and small shields (*parmae*). It

[1] The provision of such spectacles for the public amusement was the most important function of the *seviri*, whose ambition was gratified by the privileges of the *editor muneris*—the wearing of the *praetexta* and the attendance of lictors, as we see here.

[2] Juvenal speaks of *cornicines et municipalis harenae perpetui comites* (iii. 34). Sometimes a water-organ (*hydraules*) was played.

Relief with *munus gladiatorium* from tomb of C. Lusius Storax, discovered at Chieti (Teate).

seems as though the artist, who intends us to regard the first and third as one pair of opponents, the second and fourth as another, may have been clumsily endeavouring to depict a fight between two troops of gladiators (*gregatim pugnantes*). At the other end of the frieze are two figures wearing a low-crowned, broad-brimmed helmet, a tunic and *manica*, but seemingly no leg-guard, and armed with the small round shield. The one on the left, who has dropped his shield and raises his *left* arm in the direction of the *editor*, has, we must suppose, been wounded and is demanding the *missio*, which depends on the favour of the spectators[1]; the other, seen from the back, uplifts his *right* arm in token of victory. We have seen that these are probably *murmillones*. Next to them is seen a Samnite pursuing a Thracian, with two of the attendants (*harenarii*), whose duty it was to remove the dead from the arena, in the background. Then comes a Thracian, whose hands seem to be bound behind his back; unless this be a gesture used in demanding the *missio*, we must take it that he is a criminal condemned to execution. The central figure of the frieze is a Thracian with no helmet, but flowing locks, seen in full face, and probably a portrait.

The relief of Teate is but one among a host of monuments on which gladiators are shown: the tomb of Scaurus, a *duovir* of Pompeii, has a frieze on which is carved the *pompa*, or procession which preceded the show, and in the minor arts (glass and pottery) rude portraits of famous gladiators are amongst the favourite subjects of decoration. The names of Tetraites and Prudens are specially common; and we read in Petronius of Trimalchio's request that the base of the statue on his tomb should be decorated with 'all the fights of Petraites', which is probably the correct form of the name.

The gladiators (amongst whom we do not include the condemned criminals—*noxii*—who were sometimes forced to butcher each other in the *arena*) might be either slaves,[2] convicts, or free persons (*auctorati*), who were compelled by want to engage themselves in the service of the trainer (*lanista*), from whom the magistrate hired as many pairs (*paria*) as he required for his show. They were trained on a regular system in barracks or 'schools' (*ludi*), of which the earliest and (up to the close of the Republican period) the most important were at Capua. Such a *ludus* existed at Pompeii in what had at one time been a rect-

[1] The right of granting the *missio* belonged to the *editor*, but he usually gratified the wishes of the spectators, who signified their assent by lowering the thumb (*pollicem premere*) or waving a handkerchief (*mappa*), and their refusal of mercy by turning the thumb upward towards the breast (*pollicem vertere, convertere*). Gladiators who had fought bravely were sometimes dismissed without bringing the combat to an issue (*stantes missi*). As a token of final dismissal the gladiator received a wooden sword (*rudis*).

[2] The humaner legislation of the Antonine period forbade the master of a slave to consign him to the training-school (*ad ludum dare*) without either obtaining his consent or showing good cause.

angular *porticus* adjoining the large theatre. All round the colonnade were built cells, sixty-six in number, hardly more than 12 feet square, in two stories, with a common kitchen and mess-room, and apartments for the *lanista*; and the three entrances were narrow and easily guarded. Five specimens of gladiatorial armour (cf. p. 361 n.) were discovered in some of the rooms; and in what was evidently a guard-room were found stocks, as well as the skeletons of four prisoners who had been unable to make their escape. In Rome there were several *ludi* established by the emperors; the most important was the *ludus magnus*, near the Colosseum; this is partly represented on fragments of the Marble Plan, which show that in its plan it was similar to that at Pompeii, save for the fact that in the centre of the court there was an elliptical *arena* in which the gladiators could practise their art in surroundings resembling those of the amphitheatre.

§ 4. Naumachiae.

The *naumachia* was a special form of gladiatorial combat in which fleets manned by trained gladiators, condemned criminals, or prisoners of war met on an artificial or natural lake and enacted scenes of naval warfare, generally reproductions of historical sea-fights. The first recorded exhibition of this sort was given by Julius Caesar in 46 B.C.; an artificial lake was dug on the right bank of the Tiber, in communication with the river, and two fleets, representing those of Tyre and Egypt, manned by 4,000 rowers and 2,000 fighting men, were pitted against each other. This lake was, however, soon afterwards filled up; and the first permanent *naumachia* (in the sense of a lake for sea-fights, for which in pure Latin *navale stagnum* is used) was the work of Augustus. It has been shown by Huelsen that this was in the northerly part of the modern Trastevere, at the foot of the Vatican. It was fed by the *aqua Alsietina* (see p. 143), and stood in a park called the *Nemus Caesarum* in honour of Gaius and Lucius Caesar, the grandsons of Augustus. It was constructed for the games given by Augustus in 2 B.C. at the dedication of the temple of Mars Ultor, and was 1,800 Roman feet long and 1,200 feet broad. The *naumachia* then exhibited was a reproduction of the battle of Salamis, and 3,000 combatants (exclusive of rowers) took part in it. It was used several times during the first century A.D., notably by Nero and Titus,[1] but afterwards fell into disuse, so that only its ruins were visible in the time of Dio Cassius. This was perhaps because a second *naumachia* had been built in the region between the mausoleum of Hadrian and the Vatican, remains of which were brought to light in the eighteenth century;

[1] Titus boarded over the *naumachia Augusti* and gave gladiatorial shows in it on two days, reserving the third for a representation of the battle of Salamis, in which an artificial island was captured by the 'Athenians'.

this is no doubt that which is ascribed by the historians to Domitian.

Naumachiae were at times held in the *arena* of the amphitheatre, which was specially flooded for the purpose. Thus Nero exhibited *naumachiae* both at the inauguration of his wooden amphitheatre in A. D. 57 and again in A. D. 64; and Titus caused the battle of the Corcyrean and Corinthian fleets to be represented at the opening of the Flavian amphitheatre in A. D. 80. Domitian also gave a *naumachia* in the Colosseum; but (as was said above, p. 131) it is a mistake to suppose that this was a regular practice. In fact, *naumachiae* are seldom heard of after the first century A. D.; the last of which we have any knowledge (and this is merely conjectural) was celebrated by Philip the Arabian on the occasion of his *ludi saeculares* (p. 353).

The most famous *naumachia* in the history of the Empire was that given by Claudius on the Fucine Lake as a prelude to the opening of the *emissarium* (p. 154). The fleets, fifty on each side, consisting of triremes and quadriremes, represented the naval forces of Rhodes and Sicily, and were manned by 19,000 condemned criminals, prevented from escaping by a barricade of rafts on which were stationed troops of horse and foot, and engines of war. The signal was given by a silver Triton, which blew a horn worked by mechanism; but the criminals at first refused to fight, though they afterwards did so 'with the spirit of brave men', as Tacitus tells us.

§ 5. Beast-baitings.

Amongst the shows given in the Circus by which generals or magistrates sought to win popularity with the Roman people were wild-beast hunts. As early as 250 B. C. L. Caecilius Metellus exhibited 120 elephants in the Circus when he triumphed over the Carthaginians; but these were not, it seems, hunted, and the first *venatio* in the proper sense was given by M. Fulvius Nobilior, the conqueror of the Aetolian League, in 186 B. C., when lions and panthers were brought into the arena in such numbers that Livy (xxxix. 22) compares the magnificence of the spectacle with those seen in his own time. Seventeen years later sixty-three panthers and leopards, together with forty bears and several elephants, were exhibited by the curule aediles P. Cornelius Scipio Nasica and P. Cornelius Lentulus. For a century and more these African beasts were the only ones which made their appearance in the Circus beside the stags, boars, and bears of Europe; but in the closing years of the Republic the ambition of wealthy aspirants to political distinction caused search to be made farther afield. In 58 B.C. the curule aedile, M. Aemilius Scaurus, exhibited a hippopotamus and five crocodiles, for which a temporary reservoir was set up. Three years later Pompey showed a rhinoceros, an anthropoid ape, and a Gallic lynx. Finally, in 46 B.C., the giraffe

was seen for the first time at the games which accompanied Julius Caesar's triumph. Nor was it only the rarity of the animals exhibited which made these shows historic. The numbers given by the historians are barely credible. At Pompey's games 500 (or 600) lions, 410 leopards and panthers, and 17 elephants were shown; Caesar brought together 40 elephants and 400 lions. Naturally these figures were surpassed under the Empire. Augustus tells us in the *Monumentum Ancyranum* that 3,500 African beasts were killed at his shows; and he enjoyed the distinction of being the first to exhibit the tiger at the games given in 11 B. C. at the dedication of the theatre of Marcellus. This was but a single specimen shown in a cage; but Claudius was able to show four, and Domitian, Antoninus Pius, and Septimius Severus exhibited a larger number. The emperors also showed various species of the antelope, and probably the zebra, from Africa, as well as elks and bisons from Central and Northern Europe.

Under the Empire the number of beasts exhibited on important occasions was enormous. At the dedication of the Colosseum in A. D. 80, 9,000 tame and wild beasts were killed, and at the shows of A. D. 107, given in honour of Trajan's second Dacian triumph, 11,000 were slaughtered.

Originally these exhibitions were held in the Circus, but Julius Caesar, and after him Statilius Taurus, built wooden amphitheatres specially for this purpose; and after the construction of the Colosseum *venationes* were regularly held there, though the Circus was occasionally used. The shows were of different kinds. The rarer beasts were often merely paraded for the inspection of the audience; but as a rule they were either hunted or baited by trained men (*venatores*), or else were permitted to devour condemned criminals (*bestiarii*), who were exposed in the arena unarmed (or insufficiently armed), or even tied to stakes. This punishment was commonly inflicted on Christians, and, under the later Empire, was reserved for criminals of the lower orders. We have representations of these combats on many works of art. One of the ivory diptychs[1] reproduced on Pl. LIX shows the *bestiarii* taking advantage of the turnstiles which enabled them to evade the charge of the animal; on the other we see them vaulting over railings or swung in baskets from a pole.[2] At other times the beasts were made to fight with each other, e.g. a rhinoceros with an elephant, or a bull with a bear. Others, again, were trained to perform tricks in the

[1] The diptych was formed of two tablets of ivory or bone hinged together, and was presented by consuls and other magistrates to their friends with an invitation to attend the shows which they gave on assuming office. The plaques reproduced on Pl. LIX bear the name of Anastasius, who held the consulship at Constantinople in A. D. 517. In A. D. 536 Justinian ordained that *consules ordinarii* should celebrate *venationes* on Jan. 3 and 4.

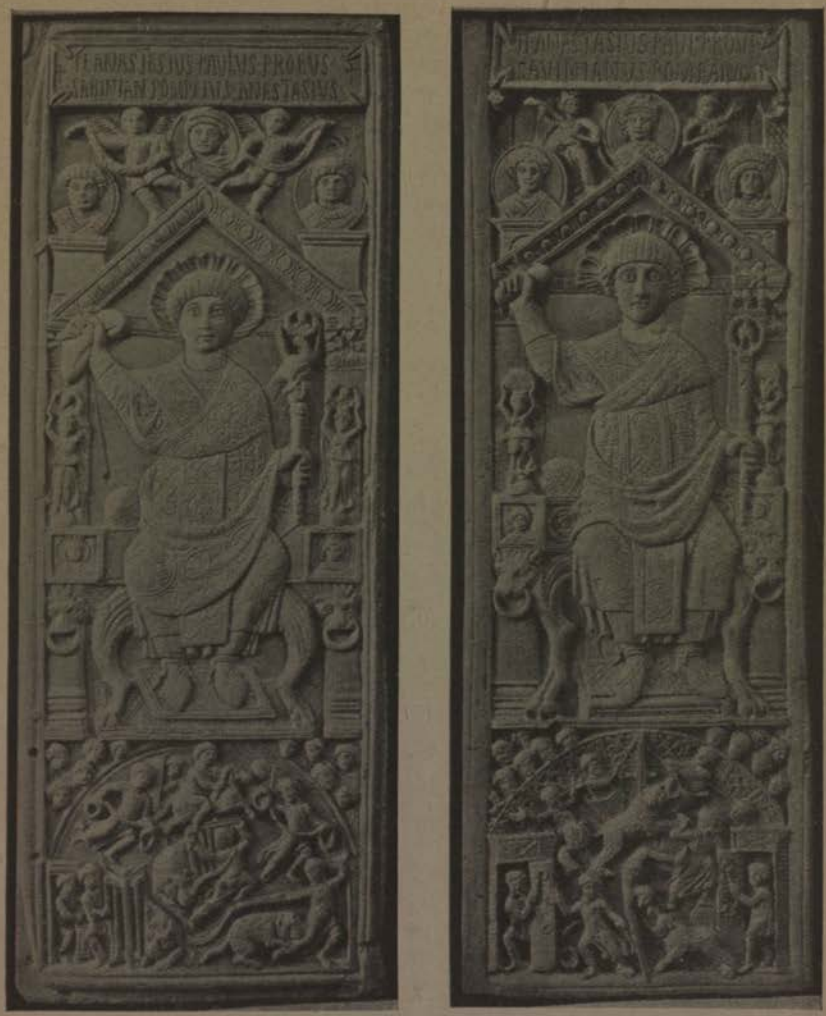
[2] These devices for the protection of the *bestiarius*, which were introduced in Christian times, are mentioned by Cassiodorus, the minister of Theodoric and his successors.

arena—such as the lions, which (in Domitian's time) were taught to catch hares and bring them to their master, or the elephants, which, we are told, could write in Greek or Latin!

§ 6. Dramatic Performances.

Livy (vii. 2) gives us an account of the origin and early history of dramatic performances in Rome, which is clearly the work of an erudite compiler inspired by the *Poetics* of Aristotle rather than by genuine tradition. According to this version the first *ludi scaenici* were celebrated in 364 B.C. in order to appease the divine wrath in time of pestilence. The actors were Etruscans, and their performances consisted in pantomimic dances to the accompaniment of the flute. Their dances were imitated by native performers, who added an improvised text, which grew from coarse banter such as that which, under the name of *Fescennini uersus*, was traditionally used at weddings, into the fully-developed *satura* accompanied by music. In 240 B.C. Livius Andronicus, a Greek freedman, first adapted Greek plays for the Roman stage; and the old farces were now replaced by the *fabulae Atellanae*, named after the Oscan town of Atella, which were acted as *exodia* after the regular plays. The performers in these 'plays of Atella' were not subject to *infamia* like the professional actors or *histriones* (whose name, according to Livy, is of Etruscan origin).

The accuracy of this account is open to question, particularly in regard to the earliest form of the native Italian drama; but there is, at least, no reason to dispute (as was done by Mommsen) the Campanian origin of the *Atellanae*, which Cicero calls *ludi Osci*; Strabo, indeed, tells us that at a certain festival they were still performed in the Oscan dialect in the time of Augustus. They doubtless made their way to Rome in the late fourth or early third century B.C., when intercourse with Campania became close. The distinguishing feature of the early *Atellana* was the caste, which was always composed of certain typical characters (as in the modern Punch and Judy show), wearing conventional masks. We hear of four such characters. The *Maccus* and the *Bucco* were somewhat similar, both being boobies who were made the butt of the jests of the playwright; the *Bucco*, as his name shows, was distinguished by his mask with puffed-out cheeks. The *Pappus* was an old man, whose follies and weaknesses were likewise turned into ridicule. The burden of the piece rested mainly on the shoulders of the *Dossennus*, or hunchback (from *dorsum*), who, like Aesop, was traditionally believed to be gifted (as if in compensation for his physical deformity) with abnormal keenness of intellect. The names of the *Maccus* and *Pappus* point to a Greek origin, and the Oscans of Campania may well have derived them from their Hellenic neighbours; nevertheless, we must see in the *Atellana* the nearest approach to a genuine Italian comedy. About the time of the Gracchi, when the public taste was



Diptychs of Anastasius, Consul A. D. 517.

beginning to weary of the adaptations and imitations of Greek plays, the *Atellana* was given a literary form by two poets, Pomponius and Novius. Some fragments of these plays are preserved, which show that their language was vulgar and their jests broad; the titles (of which a large number are known) are very largely taken from the life of the farm (*agricola, bubulcus, asina, verres aegrotus*, &c.), or from that of the middle and lower classes (*haruspex, praeco, piscatores*, and so forth). But besides these farces of daily life, in which the parts were played by the standing characters of the *ludi Osci*, there were others in which high tragedy was turned into burlesque (*Agamemnon suppositus, Hercules coactor*, and the like). It can hardly be doubted that this type was derived from the ἱλαροτραγῳδία, whose invention is ascribed to Rhinthon of Tarentum;[1] and it was only included under the general name of *Atellana* by an extension of the meaning of that term. In the time of Cicero the popularity of the *Atellana* had already waned, and its place was generally taken by the *mimus* (see below).

The introduction of the Greek drama into Rome took place at the *ludi Romani* of 240 B.C., when Livius Andronicus produced both tragedy and comedy on the stage; and plays were henceforward regularly performed at this festival, and afterwards at the *ludi Plebeii, ludi Apollinares*, and *ludi Megalenses* (see p. 351). The number of performances was largely increased by the celebration of *ludi votivi* and *ludi funebres*, as well as by the added festivals of later times; and even as early as the time of Sulla we hear of the actor Roscius appearing 125 times in one year. In the fourth century A.D., 101 days were set apart for regular theatrical performances. The magistrate presiding at the games entered into a contract with an *impresario* for the production of the plays. The company was known as *grex* or *caterva*, and consisted of freedmen, foreigners, or slaves, who were either the property of the manager (*dominus gregis*) or hired by him from private owners. The *dominus gregis* was also called the *actor*, and the earliest dramatic authors—Livius Andronicus and Plautus—at first contracted directly with the magistrates for the production of their own plays, and took the principal parts. Very soon, however, a class of professional actors arose, and the playwright preferred to sell his piece to the *dominus gregis*; Terence, for example, received 8,000 sesterces for the *Eunuchus*. The *dominus* was in this period an actor-manager, such as T. Publilius Pellio, who produced the *Stichus* of Plautus in 200 B.C., and took the chief part, or L. Ambiius Turpio, to whom Terence assigned the production of all his plays. These managers acquired all rights in the plays thus purchased, and old plays were often revived. There was no restriction upon the number of actors in the Roman drama,

[1] Rhinthon flourished at the beginning of the third century B.C. Besides the tragic burlesques, farces (φλύακες) were performed at Tarentum and elsewhere in South Italy; but we cannot connect them directly with the *Atellana*.

and the comedies of Plautus and Terence usually require five or six. Besides these, the *grex* included a flute-player (*tibicen*) and singer (*cantor*), together with supernumeraries (*operarii*) and (for tragedy only) a chorus. Though the chorus did not appear in Roman comedy, this was largely composed of *cantica*—either recitatives or lyrics set to music (*mutatis modis cantica*)—which, according to Livy, were originally sung by the *cantor* to the accompaniment of the flute, whilst the actor confined himself to pantomimic gesture. The spoken scenes were known as *deverbia*. To several of the plays of Plautus and Terence there is prefixed in our MSS. a *didascalia* modelled on those which the Alexandrian scholars had compiled for their editions of the Greek dramatists. This, when complete, gives us (*a*) the name of the piece with that of the author, (*b*) the festival at which it was produced, (*c*) the names of the presiding magistrates, (*d*) the name of the *actor* or *dominus gregis*, (*e*) the name of the composer of the musical accompaniment, (*f*) the nature of the accompaniment, (*g*) the title of the Greek play from which the piece was adapted or translated, (*h*) the place which it occupied in the list of the poet's works, (*i*) the consuls of the year of the first performance. Thus we learn that the *Phormio* of Terence was produced at the *ludi Romani* in the consulship of C. Fannius and M. Valerius (161 B.C.), under the supervision of the curule aediles, L. Postumius Albinus and L. Cornelius Merula. The manager was L. Ambivius Turpio, the composer 'Flaccus, the slave of Claudius', whose music was all written for the 'unequal pipes' (*tibiae impares*).[1] It was translated from the *Epidicazomenos* of Apollodorus, and was the fourth in order of Terence's plays.

The costume of the Roman actor is abundantly illustrated by works of art, and especially by the illustrations of the MSS. of Terence. At first no masks were used—the reason given is that the freeborn actors of the *Atellana* wished to avoid confusion with the *histriones*.[2] Wigs (*galeri*) were worn, which indicated by their colour the class to which the character belonged. Thus white hair was worn by the old, black curly hair by the young, and red hair by slaves. The grammarians are not agreed concerning the date at which masks were introduced. According to Diomedes, Roscius was the first to wear a mask on account of his squint; but Donatus attributes the introduction of the mask in comedy to Cincius Faliscus, in tragedy to Minucius Prothymus. These latter seem to have been actor-managers of the time of the Gracchi, when, as Tacitus tells us,[3] the *mise en scène* of the drama became more elaborate owing to the conquest of the Greek communities. This tallies with the words put into the mouth of the orator

[1] The *tibia* (a kind of clarionet) was either treble (*t. dextra*) or bass (*t. sinistra*); when both were used (*tibiae impares*) the melody was given by the *t. dextra*. The music of the *Haulontimorumenos* was partly for the *t. impares*, partly *duabus dextris*.

[2] The fact is confirmed by allusions in Terence's dramas to the facial play of the actors.

[3] *Ann.* xiv. 21.

Crassus in Cicero's dialogue *de Oratore* (supposed to have taken place in 91 B.C.), which imply that only elderly men could remember the time when masks were unknown. Roscius, who died an old man in 62 B.C., cannot then have been the first actor to wear a mask on the Roman stage; but it is possible that he was the first *Roman* so to do. His career marks a great change in the position of the actor at Rome. His legal status remained unaltered; but Sulla, who was completely emancipated from Roman prejudices, frequented the society of actors and bestowed on Roscius the gold ring of the *eques*. His earnings are said to have reached 500,000 sesterces a year; and in the next generation Aesopus (who was on friendly terms with Cicero) left a fortune of 20,000,000 sesterces. From the time of Caesar onwards amateur actors, often of equestrian rank, began to appear on the stage, sometimes under compulsion from the emperors. Women, however, were never permitted to act in the regular drama until the latest times (as we learn from Donatus's commentary on Terence, written in the fourth century).

There were several kinds of dramatic performances. Greek tragedy and comedy, even in the skilful adaptations of Plautus and Terence, soon ceased to satisfy the public taste, and a national drama sprang up. From the costume of the actors the Roman play was called a *fabula praetexta*, if a tragedy, or *togata*, if a comedy, as distinguished from the *fabula palliata* drawn from a Greek original. The costume of the *palliata* is reproduced in the illustrations contained in the MSS. of Terence; for tragedy we have such monuments as the terracotta plaque shown on Pl. LX which was used in the decoration of the tomb of P. Numitorius Hilarus, mentioned on p. 188, and reproduces in a compendious form the *scaenae frons* of the Roman theatre, with its three entrances, its columns and pediments; it is to be noted especially that the side columns are inclined at an angle of about 45° to the background, and were meant to correspond with a pilaster which, together with them, enclosed the side-entrance or *πάροδος* of the stage. The play in which the actors are taking part is not easy to identify. To the right we see an actor wearing a sleeved tunic girt at the waist (painted yellow), a purple cloak (*φοινικίς*) fastened on the right shoulder, a flesh-tinted mask, and purple boots (*cothurni*) with high wooden soles. The female actor, who occupies the centre of the stage, wears a pink tunic with sleeves and a train (*συρτός*) girt above the waist, a short upper garment (*ἐπίβλημα*), and the mask and *cothurni*. She holds by the hand a child dressed in a tunic and wearing the Phrygian cap, which denotes his Trojan origin. To the left are two figures—a man leaning on the shoulder of a girl—not in tragic costume, whom we must suppose to be supernumeraries (unless they represent the chorus, an unlikely supposition). In the woman and child we may clearly recognize Andromache and Astyanax; the third actor is probably Ulysses, who announces to the mother the decision of the Greeks to put the

Terracotta relief with scene from tragedy.

child of Hector to the sword. This subject was treated by Accius in one, if not two plays (the *Troades* and the *Astyanax*, if these are to be distinguished); and our relief is to be regarded as an illustration of the poet's text.

The Roman theatre was used not only for the regular drama, but for two other kinds of performance which in time robbed it of much of its popularity. These were the *mimus* and the *pantomimus*. The *mimus*, though called by a Greek name, and doubtless influenced by Greek models, was Italian in spirit—especially in its coarseness. The name properly signifies a character-sketch, usually from low life, given by one or two actors. Such sketches were performed at fairs and in the streets, or in private houses for the amusement of guests; but from the time of Sulla onwards they became a popular element in the *ludi scaenici*, and had probably always been acted at the *ludi Florales* (see p. 351), which were a carnival of licence. The *mimi* (the word is applied to the actor as well as to the piece) appeared in the dress of daily life, without mask or *soccus*, and hence were called 'flat-feet' (*planipedes*), and acted in front of a curtain (*siparium*) which shut off the back part of the stage. Women as well as men acted in the mimes, which were the most frankly immoral of the performances tolerated on the ancient stage; and there were companies organized by an *archimimus* such as the Sorex who was a favourite of Sulla. Besides the principal character, there was always a booby (*stupidus* or *parasitus*), who came in for hard knocks: in fact, the mime was originally little more than a harlequinade, and we even hear of a parti-coloured costume (*centunculus*) worn by the actors. Like the *Atellana*, however, the mime was given literary form by writers of the close of the Republic; the name of the knight Laberius, whom Caesar compelled to act in his own piece, is well known. The *mimus* now took the place formerly held by the *Atellana* as an *exodium* at the close of the *ludi scaenici*; but to the taste of the later Empire such a sketch, with its licentious tone, was more agreeable than tragedy or comedy, and it grew in popularity at their expense until in the Byzantine period it was the last form of dramatic performance to survive.

The *pantomimus*, though Greek in name, was a creation of Roman times and was perhaps suggested by the practice described above by which the lyrical portions of the drama were sung by the *cantor* and accompanied with gesticulation by the actor. In the early part of Augustus's reign the dramatic dance was raised to a form of art by two performers, Pylades the Cilician, who chose the legends of tragic mythology as his province, and Bathyllus of Alexandria, whose dances were inspired by the lighter spirit of comedy. Each of these artists founded a school,[1] but that of

[1] The names of well-known dancers were often adopted by their successors; e.g. those of Pylades and Bathyllus were borne by later artists; and the famous Paris, a favourite of Nero, was succeeded by four celebrated namesakes.

Bathyllus was short-lived, whilst the 'tragic pantomime' of Pylades vied in popularity with the mime. The pantomime had its *libretto*, either drawn from a Greek tragedy or specially written, which was sung by a *chorus* at the back of the stage;[1] but the interest of the performance centred in the suggestive motions of the dancer, of which it is difficult—even with allowance for the familiarity of the audience with the myths represented and the expressive gesture-language of the Southerner—to form any adequate conception. Lucian describes two of these performances —one in which the artist represented the *amours* of Mars and Venus, enacting the whole story as told by Homer from the warning given by Helios to Hephaestus to the assembly of the gods convened by the dishonoured husband; and another, the 'Feast of Thyestes', in which the dancer personated in turn Atreus, Thyestes, Aegisthus, and Aërope. We must suppose that the mask worn by the *pantomimus*, which differed from that of tragedy by the greater regularity and naturalism of its features, was often changed during the piece. There was, moreover, a variety of the *pantomimus*, in which the actor used the *pallium* in a sort of 'cloak-dance' to help out this gesture-language: the phrase used of this is *palliolatim saltare*.

Other stage-performances may be dismissed more briefly. The *pyrrhicha* was a ballet which, unlike the Greek πυρρίχη or dance in armour, was dramatic in content; mythological subjects like the Judgement of Paris—especially those connected with Dionysus, such as his Indian expedition—were represented by a professional chorus of men and women. The lyrical portions of tragedy were also given as dramatic solos on the stage—a performance which was not considered beneath the dignity of persons of rank, such as C. Piso, the conspirator of A. D. 65, and even Thrasea Poetus, who appeared *ornatu tragico* at his native place, Pataium. Nero himself, who shrank from taking part in the regular drama, gave exhibitions of his talent in this way.

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[1] The time was given by an instrument called the *scabillum*, attached to the sole of the leader's shoe, which emitted a sound when he stamped his foot.

CHAPTER VIII

ART

§ 1. Introductory.

The question has been raised whether we are justified in speaking of Roman art in the sense of an art which expresses the national character of the Romans. It has already been shown (chap. I, § 1) that they were dependent on more advanced races, such as the Etruscans and Greeks, for the elements of their material culture; and so long as their struggle for political supremacy continued, they made no attempt to develop such artistic faculty as they possessed, but either employed foreigners in the adornment of their city, or acquired works of art by import or plunder. The bronze wolf of the Capitol, a work of early Ionic art of the sixth century B. C., bears testimony to the early importation of Greek sculptures; and tradition tells the same tale. As early as 496 B. C., according to Pliny (*H. N.* xxxv. 154), two Greek artists, Damophilus and Gorgasus, were commissioned to decorate with paintings and terracotta reliefs and statues the temple dedicated after the battle of Lake Regillus to Ceres, Liber, and Libera; and the statues of Pythagoras and Alcibiades, set up at the extremities of the Comitium during the Samnite Wars (343 B.C.), were doubtless Greek works. But Roman art critics speak of a 'Tuscan' school of sculpture; and it is probable that many or most of the statues set up in early Rome were the work of Etruscan artists. Since the quarries of Luna (Carrara) were not worked before the Roman conquest, and Greek marble was too costly to be imported, early Etruscan sculptures were executed, either in bronze or (especially in early times) in the volcanic rocks or limestones native to the district, in painted terracotta, or in bronze. The cult-statues and other ornaments of Etruscan temples were usually of terracotta, and the earliest temple of Jupiter, Juno, and Minerva on the Capitol was thus decorated; we are told that in later times such fragments of these sculptures as were accidentally broken were preserved in the *favissae* (cf. p. 89) of the temple. A colossal Apollo in bronze, preserved in the library of the Temple of Augustus (p. 139), is described as belonging to the Tuscan school; and it is most probable that the colossal Jupiter on the Capitol, cast in 293 B. C. from the armour of the conquered Samnites, was executed by Etruscan craftsmen. But the most characteristic products of Etruscan art were its portraits; these are represented to us mainly by the reclining figures, which adorn the lids of sarcophagi. They show that although technically dependent upon Greek models, the Etruscans were entirely without the idealizing

spirit of Greek artists. By this is meant, not that the Greek aimed at imparting to his subject a beauty which it did not possess, but that he never lost sight of the type in the individual, but instinctively generalized the features of his model, so that our impression on seeing a collection of Greek portraits is that of a series of character-types. This method of portraiture was foreign to the Etruscans, and in fact to all Italians, who faithfully reproduced to the best of their ability the features which they saw. Thus the conditions were favourable to the growth of a school of Roman portraiture; and it will presently be seen that Roman art, properly so called, won its earliest, as well as its most lasting, triumphs in this field.

The Romans, however, were long content to plunder rather than to produce works of art. *Pliny* tells us that more than two thousand statues were brought to Rome from the Etruscan city of Volsinii (conquered in 265 B. C.); and the Punic Wars, which brought the Romans into more direct contact with the Greeks of Lower Italy and Sicily, saw the beginning of that influx of Greek statues, paintings, &c., into Rome which thenceforth continued without a break until Imperial times. Livy tells us that M. Claudius Marcellus, the conqueror of Syracuse (212 B. C.), brought home 'many famous statues' (xxvi. 21); that Flamininus, at his triumph in 194 B. C., exhibited not only the statues of bronze and marble which he had taken from Philip V of Macedon and the Greek cities, but also several masterpieces of the metal-worker's art, which was to appeal so strongly to Roman taste (xxxiv. 52); and that M. Fulvius Nobilior, who triumphed over the Aetolians in 187 B.C., carried in procession 285 statues of bronze and 230 of marble (xxxix. 5). Twenty years later, L. Aemilius Paulus, the conqueror of Macedonia, exhibited not only statues, but pictures, in his triumph; these together filled 250 wagons (Plut. *Aemil.* 32); and L. Mummius, who finally reduced the Achaean League to submission in 146 B.C., 'filled Rome' with the art treasures of Greece. At first, no doubt, these works were brought to Rome by victorious generals from sheer love of display; but as the Roman intelligence awakened, and Philhellenism became a genuine passion with the higher minds in Rome, an ever-growing interest arose in Greek art for its own sake. The tendency was combated by those who, like the elder Cato, regarded the statues brought by Marcellus from Syracuse as 'enemies introduced into Rome'; and in deference to what was conventionally regarded as genuine Roman sentiment, Cicero assumed in his speech against Verres an indifference to, and even an ignorance concerning, Greek art which were very far from representing his true mind, while Vergil gave utterance to the same ideas in the famous lines

> *excudent alii spirantia mollius aera,*
> *credo equidem, vivos ducent de marmore vultus;*
> *tu regere imperio populos, Romane, memento.*

But in point of fact the wealthy Romans who filled their palaces and country-houses with Greek works of art, whether originals or copies,[1] were not always mere followers of fashion, but often genuinely appreciative of the beauty of their possessions. Connoisseurship, indeed, furnishes no stimulus to creative art; but that which was lacking was supplied by the desire of the Romans to perpetuate the memory of their great achievements, and the features of their rulers and statesmen. The key-note of Roman art, properly so-called, is its direct relation to history and life. As we shall see, it is not only in sculpture, where portraiture and historical relief afford scope for the manifestation of the qualities which appealed to the Roman taste, that we find masterpieces of the new style, but also in those arts—such as goldsmiths' work and gem-engraving—which we are accustomed rather to regard as ministering to private luxury than as charged with historical or political significance. It is difficult to determine to what extent the individuals upon whom the task of satisfying Roman demands was laid were of Latin origin: the artists of the Augustan age, we can hardly doubt, were mainly Greeks. But, as will be seen, the whole history of Imperial Art is that of the emergence of qualities foreign to the Hellenic world, and the undermining of the Hellenic standard of taste; it is a fresh artistic tradition which establishes itself, having its roots in Italian soil (as the history of Etruscan art shows) and continuing unbroken until the Renaissance.

§ 2. Sculpture.

Roman sculpture, properly so-called, begins, as it ends, with portraiture, and the progress of Roman art is most easily traced by examining a series of typical busts, such as are shown on Pl. LXI. It has already been pointed out that the products of Etruscan art bear witness to the existence of a tradition of unsparing realism native to Italian soil; and this is the character of such Roman portraits as may be dated before the fall of the Republic. The noble houses of the Republican epoch, it will be remembered, possessed the *ius imaginum*, the right to possess waxen busts, often, we may suppose, derived from death-masks, of their more famous members (see above, p. 160). It was from these portrait-masks that the marble busts of later times were derived; the Roman bust betrays by its form a different origin from the Greek, which crowned a herm or pillar and in time became detached therefrom. Amongst the Roman busts in modern museums there are several which have been thought to represent famous personages of Republican times, and to recall by their style their waxen prototypes. The museum of the Capitol

[1] The ship sunk off Cerigotto, from which a Hermes of Lysippean style and other less famous statues were recovered in 1900, seems not to have been a transport conveying captured spoils, but a merchantman, since its cargo consisted largely in copies of Greek works made for the Roman market.

contains the best-known example in the large bust bearing the modern inscription P. COR. SCIPIO, and often—though without sufficient reason—identified with the conqueror of Hannibal. This bust was executed in the second century A.D., as is proved by the treatment of the eyes (see below, p. 382), but it reproduces a masterpiece of Republican times. The head is bald, as are several others which resemble it in style or features; and it has been suggested that we have in this detail a faithful reproduction of the waxen *imago* in which the hair was rendered by colour. It is also to be noted that there is a deep scar in the form of a cross above the temple; this too is found in other examples, and has been variously explained. A commonly received theory regards these busts as representing priests of Isis, in which case the scar will represent a mark of dedication; otherwise it must be explained as a wound received in war. Pl. LXI, 1 shows a typical portrait of the last half-century of the Republic. It was once thought to represent Julius Caesar; but this is not so. The subject was, however, a contemporary of Caesar, and a member of one of the priestly colleges, as is proved by the fashion in which the *toga* is drawn over the head (p. 329). The lines of the face are hard, and the artist shows little feeling for the texture of the surface; but the portrait is lifelike and doubtless faithful.

There is a marked contrast between Republican portraits such as that which has been described above and those of the Augustan age, amongst which those of the emperor himself are pre-eminent (cf. Pl. LXIII). Nowhere is the influence of Greek classicism more clearly traceable than in these works; the cold, unsympathetic temperament of Augustus made him an ideal subject for academic portraiture. The traditions of the Augustan school remained in force under the rule of the Julio-Claudian Caesars; the portraits executed during this period are the product of an abstract and conventional art, which betrays scarcely any sign of progress. Under the Flavian dynasty, however, the native forces of the Roman genius asserted themselves with sudden and startling vigour. Even the form of the bust entered upon a series of changes whose value for us lies in the fact that they furnish a criterion for the dating of Roman portraits, other than those of emperors, or members of the Imperial family, whose features can be identified through coin-types. Up to the time of Nero the bust includes the collar-bone and a small portion of the breast; but it gradually grows larger, and under the Flavian emperors the outline of the shoulders and breast is given (Pl. LXI, 2). In the time of Trajan the armpits are included (Pl. LXI, 3); and under Hadrian a small portion of the upper arm is rendered, which gradually increases in length under the Antonine dynasty. The climax of this development is reached in the half-length busts of the third century, which often show the whole of the right arm and hand; but in this period the earlier forms again came into use.

The busts of the Flavian era differ not only in form but in spirit from those of the preceding period. The finest of them deserve to rank as masterpieces of art, since the great technical skill of their makers is not exercised as an end in itself, in such a way as to obtrude itself upon our notice, but is subservient to the need felt by the sculptor of recording the impression made upon a keen artistic sense by the subject. There is no excessive insistence on detail, but a remarkable grasp of character and expression; and we are justified in using the term 'impressionist' in the best sense of such a portrait as Pl. LXI, 2,[1] popularly known as 'Mark Antony'. In the treatment of the hair, to which a free use of the drill has imparted an astounding complexity, this bust differs from others of the Flavian period; but the consummate rendering of character by sheer dexterity of touch is not equalled in the work of any other time. Pl. LXI, 3[2] shows a good example of the portraits of the Trajanic period, which are harder than the Flavian busts and have less 'atmosphere'; indeed, the coarser work of this time is often hardly to be distinguished from that of the last century of the Republic. After the death of Trajan a great transformation was wrought in Roman art, and not least in portraiture. The portraits of post-Trajanic date may be distinguished by certain external marks. Hadrian set the fashion of wearing the beard, which was universally followed. Moreover, we find that from his reign dates the practice of representing the iris and pupil of the eye by incisions in the marble. Such a plastic rendering of detail was, of course, at all times usual in bronze: its transference to marble is a sign that artists were beginning to concentrate their attention on their material and endeavouring to obtain fresh effects—just as we shall find, e.g., that green basalt was turned to statuary uses in this period, in spite of the extreme difficulty of handling it, because of its similarity to bronze. More than this, the use of the device above mentioned is the first symptom of the turn which art was about to take in the sense of laying stress on sharp contrasts of light and shadow, borrowing, as it were, from painting the use of *chiaroscuro*. It was not, however, until the time of Marcus Aurelius that this tendency became dominant in sculpture; in portraiture a signal example is furnished by the half-length of Commodus (Pl. LXI, 4) in the Palazzo dei Conservatori, where the highly-polished surface of the nude is set off by the deeply-drilled mass of curls broken up by light and shade into a kind of irregular pattern. This style of portraiture is found throughout the latter half of the second century A.D. With the advent of the third century the decline from the classical standard became more rapid. Roman artists, indeed, did not lose their cunning in the representation of character in essential features: the portraits of Caracalla, of which a fine example in Berlin is shown on Pl. LXI, 5, give a vivid picture

[1] Braccio Nuovo 97 A.
[2] Museo Chiaramonti 561.

Roman portraits.

1. Republican portrait (so-called Julius Caesar). 2. Flavian portrait (so-called Mark Antony). 3. Trajanic portrait.
4. Portrait of Commodus. 5. Bust of Caracalla. 6. Portrait of Philip the Arabian.
7. Portrait of the time of Gallienus. 8. Fourth-century portrait.

of the tyrant in his later years; and the craft and cruelty of Philip the Arabian (emperor, A.D. 244–7) are delineated with unerring touch in the Vatican bust (Pl. LXI, 6).[1] It will be noticed, however, that the artist obtains his effect by simpler means than those employed in the Antonine period; the close-cropped hair, in particular, is rendered by a host of incised strokes on a roughened surface. There was a certain reaction in the direction of more elaborate treatment under Gallienus (A.D. 253–68), to whose reign we must assign the nameless head in the Magazzino Archeologico (Pl. LXI, 7); but the political and economic catastrophe from which the Empire was hardly saved by Aurelian put a sudden end to realistic portraiture. When the fabric of the Empire was remodelled by Diocletian and Constantine, a new type of portrait came into being, rigid and lifeless as the machine-made government of New Rome; an example of such—from the Palazzo Giustiniani—is shown on Pl. LXI, 8. In the fixed gaze of the face we see a return to that 'frontality' in which all art begins, and from which the Greeks alone amongst ancient peoples were able to free themselves. For this reason it is held that the 'frontal' portraiture of the fourth century A.D. marks the triumph of Oriental influences: this point must be reserved for a later discussion.

The series of busts just described has introduced us to the successive phrases traversed by Roman sculpture; and we may read the same story writ large on the historical monuments which are its abiding glory. Of statuary it is not necessary to speak at length; the borrowed types of Greek divinities in which Roman artists embodied conceptions such as those of Venus Genetrix, the ancestress of the Julian House, and Mars Ultor, who espoused the cause of monarchy on the field of Philippi, do not concern the historian of Roman art, and the portrait-statues of emperors, priests, or officials present no great variety of type. Amongst the earliest creations of this branch of art in Rome we must rank the well-known bronze *Camillus* (Pl. LXII) in the Palazzo dei Conservatori—one of the few ancient statues which has never been buried. What it represents has already been explained (p. 294): as a work of art it is noteworthy in two respects. Firstly, it betrays the influence of that Greek classicism which was one of the most powerful currents in the stream of art in the first century B.C. The statue has, not without reason, been compared with Attic sculptures of the fifth century B.C., of which it reminds us by the studied simplicity of its pose, the treatment of its drapery, and its somewhat expressionless features. But, on the other hand, we observe in certain minutiae—easily overlooked—the meticulous rendering of significant detail which is characteristic of the Roman. The purple stripe of the *tunica praetexta* is indicated by an inlay of copper; the ornaments of the sandals and the hems of the sleeves are accurately reproduced. If the *urceus* and *patera*

[1] Braccio Nuovo 124.

Statue of *Camillus*.

originally held by the figure were preserved, they would, no doubt, confirm the total impression. When we turn to the statue of Augustus (Pl. LXIII), found at Prima Porta in the remains of the Villa of Livia,[1] which is of somewhat later date—about 13 B.C., as will be shown presently, we find ourselves in the presence of a work which in its blending of the real with the ideal strikes the keynote of Imperial art. That Augustus, who was fifty years of age when the portrait was executed, is represented as a man in the prime of life, is, of course, a current convention; but that he should be bare-headed and bare-footed, although conceived as delivering an *allocutio* to his assembled troops,[2] is a piece of frank idealism, borrowed, no doubt, from Hellenistic art. Such, again, is the attribute of Cupid and the dolphin, which points to the divine ancestry of the Julian house. But the corslet with its chasings is almost as valuable a document for the history of metal-work as it is for the spirit of Augustan sculpture; there can be no reasonable doubt that it was copied from an original in silver. In its reliefs the real and ideal are again set side by side. Above we see the sky-god (*Caelus*) with outspread arms, beneath which is the chariot of the Sun pursuing the goddesses of Dawn and Dew; and below is Mother Earth, with two children at her breast, bearing the horn of Plenty. Beside these elemental deities we also find Apollo and Diana, the patrons of the Imperial house. But these ideal figures serve only as a setting for the central group, in which the historical interest is focused. Here we see a Parthian in national costume, delivering to the war-god, who is realistically portrayed in the guise of a Roman officer, one of the eagles taken from Crassus at Carrhae. The crowning triumph of Augustus's diplomacy in the East fittingly holds the place of honour; but his pacification of the West is also symbolized by the two seated figures on either side of the group, whose costume and weapons prove them to be representative of Gaul and Spain. The presence of these figures enables us to date the statue to the period which followed Augustus's return from the West in 13 B.C., and in style and spirit it is closely similar to the Ara Pacis Augustae, to be described below. Of later statues it will suffice to name two which are illustrated in this book—the figure of a Vestal in the Museo delle Terme (Pl. XLVI), and the *Auriga* of the Sala della Biga (Pl. LVI). They illustrate that fidelity in the rendering of details which makes Roman monuments more useful to the student of antiquities than the more conventional works of Greek art. The figure of the Vestal cannot be earlier than the time of the Severi, and ranks high amongst the portraits of that date.[3]

The highest achievement of the Roman sculptor was reached in

[1] Braccio Nuovo 14.

[2] Hence the left hand should hold, not the sceptre, but the spear.

[3] The original head of the *Auriga* has been replaced by a poor copy of a Polyclitan original.

Statue of Augustus from Prima Porta.

the domain of bas-relief. Here the native instinct for the exact representation of elaborate ceremonial could find free play. Scenes of sacrifice and triumph, solemn processions and court functions, were repeated with little variation in conception, though much in technical execution. Amongst the earliest, and the most individual, monuments of this class is a frieze preserved partly at Munich and partly in the Louvre, which there is good reason to ascribe to the decoration of an altar dedicated to Neptune about 35 B. C. by Cn. Domitius Ahenobarbus.[1] The offering of the *suovetaurilia* (cf. Pl. L), which forms the centre of the Louvre frieze, is set between two groups, one of soldiers in uniform, the other of civilians, who seem however to be preparing *diplomata* for the discharged veterans of Domitius's army. If this frieze be rightly dated, it is of high importance as showing the first efforts of Republican artists towards the creation of a school of historical sculpture. The artist shows a keener interest in the realistic scene than in the conventional subject drawn from Greek mythology (a group of marine divinities) which formed its counterpart.

In the history of Imperial art the first landmark is the foundation of the Ara Pacis Augustae, decreed on July 9, 13 B.C., and dedicated on January 30, 9 B. C., in commemoration of Augustus's return from the Western provinces. The altar stood in the Campus Martius, and was enclosed in a small precinct whose walls of marble were decorated within and without in relief. On the inner surface we find graceful festoons of fruit, flowers, and foliage looped up with ribbons tied to *bucrania*: the naturalism of the vegetable forms contrasts strongly with the conventional—though extremely beautiful—scrolls of acanthus, whose fluted stems end in spirals filled with a large variety of leaf and blossom, with which the lower half of the outer surface was adorned. The historical interest is centred in the friezes and groups which decorated the upper half of this surface. It must be explained that in form the monument was an enclosure measuring $10{\cdot}5 \times 11{\cdot}5$ metres with entrances 3·5 m. wide in each of the longer (eastern and western) fronts. These facts were finally determined by excavation in 1903–4: but Petersen had already published a fairly correct reconstruction based on an examination of the fragments of relief discovered, partly in the sixteenth and partly in the nineteenth century, on the site, and identified by von Duhn as belonging to the Ara Pacis. Since records of the earlier excavations are lacking, the arrangement of the reliefs is not absolutely certain in details, but the following seems highly probable. As the spectator approached the east front from the Via Flaminia (corresponding with the modern Corso), he saw on either side of the entrance ideal scenes symmetrically disposed. To the left was a beautiful group (Pl. LXIV B), now in the Uffizi at Florence, which represented the Earth-goddess with her children —we may recall the cuirass of the Prima Porta Augustus—seated

[1] Not (as V. Domaszewski thinks) the conqueror of the Allobroges in B. C. 121.

A

B

Reliefs from the Ara Pacis Augustae.

upon a rock at the foot of which cattle are pasturing, and flanked by figures best explained as the *Aurae*—the fertilizing breezes, salt and fresh, which blow over sea and land. It has been questioned whether the invention of this composition is due to the Roman artist: a relief found at Carthage, now in the Louvre, reproduces the subject with some variation, and it has been thought that both may be excerpts from some larger work of Hellenistic date; this, however, is mere conjecture. Unfortunately we possess only small fragments of the relief to the right of the eastern entrance: but, so far as they go, they point to a representation of the Lupercal with the Ficus Ruminalis overhanging it, and the figures of Roma—seated, and facing towards the entrance like the Earth-goddess—Mars, and Faunus. It may be supposed that the wolf and twins were not absent. The unbroken walls of the precinct were adorned with processions, which naturally recall those of the Parthenon frieze. That to the north is more completely preserved, but is deprived of much of its interest for us by the loss of nearly all the heads of the figures. The character of the reliefs is best appreciated by a study of the slabs of the south frieze, one of which is shown on Pl. LXIV A. On both sides the procession was formed by priests and dignitaries, preceded by lictors and followed by groups of citizens, with women and children: but the south frieze was the more varied, since upon it were represented the members of the great priestly college whose composition is discussed on p. 282. At the head was, of course, the *rex sacrorum*, whose head is sadly damaged; then came the *flamines* (cf. p. 281), preserved partly on a slab which still remains underground (1909), partly on that shown in Pl. LXIV A, now in the Uffizi. The heads are doubtless portraits, as is that of the *pontifex* (cf. p. 282), veiled with the *toga*, whose identification has been hotly debated. In 13 B.C. the triumvir Lepidus still held the office of *pontifex maximus*; but he was a prisoner in exile: in 9 B.C. he had been succeeded by Augustus. Most probably some other representative of the sacred college is represented. In the figures which follow most archaeologists have endeavoured to trace the lineaments of the Imperial family—chiefly because a relief in the Villa Medici, and wrongly ascribed to this frieze, was supposed to exhibit Augustus himself at the head of the procession: but the resemblances to known individuals are far from close. If the household of Augustus is indeed represented, the artist is open to the criticism which has been levelled at him on the ground that the southern procession so far outweighs the northern in importance as to destroy the balance which is maintained on the Parthenon frieze. In any case, the dignity of the Roman character has never met with a more adequate embodiment than in these reliefs. From the west front—to which the processions are tending—we have only the group to the south of the entrance, not, as we should expect, an historical scene of sacrifice, but one in which the chief figure is ideal—probably symbolical of the Senate of Rome. The

victim is a pregnant cow—fit offering to *Pax Augusta*—and the landscape background, with the temple of the Penates on an eminence representing the Velia, is in late Hellenistic style.

The splendid promise of Augustan art was not immediately fulfilled. Some fine naturalistic ornament is preserved in the decoration of altars of the Julio-Claudian period—that in the

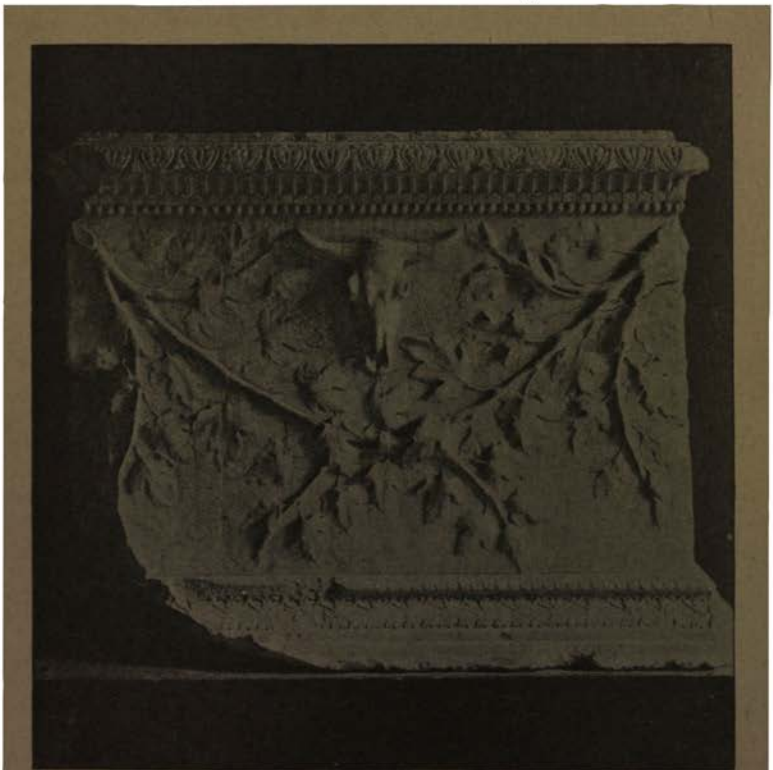


FIG. 59. Altar in the Museo delle Terme.

Museo delle Terme (Fig. 59) with its graceful plane-branches is often assigned to the period of Augustus, but might be a little later—but the figure-sculpture of the time is academic, and monuments are lacking which would help us in tracing the transition to Flavian art.[1] Of this the chief historical monument is the Arch of Titus, which, though designed to commemorate the capture of Jerusalem in A. D. 70, was only completed and dedicated by Domitian after his brother's death (A. D. 81). It was the reliefs of the archway, one of which is shown on Pl. LXV A, which

[1] It is not unlikely that the frieze in the Louvre which represents the *Suovetaurilia* (Pl. L) may belong to this period of transition.

revealed to the eye of Wickhoff the existence of a substantive Roman art. The praise which he and his followers have lavished upon these compositions is indeed somewhat exaggerated. To compare them with such masterpieces as the 'Surrender of Breda' or the 'Spinning Girls' of Velazquez is to ignore a certain coarseness of execution, excusable in decorative work: yet the point of the comparison is not to be denied. The reliefs have 'atmosphere' and depth: they give the illusion of processions moving through real air—even though Wickhoff goes too far in saying that the figures are so disposed as to cast no shadows on the background. The artist has, however, avoided this to a great extent, and we thus get an impression totally different from the neutral background upon which the figures of Greek bas-relief are silhouetted, as well as from the landscape introduced by the latest Hellenistic art—the impression of air and light essential to the picture. Thus regarded, these reliefs fall into their place in the movement which gave birth to the 'illusionist' busts of the Flavian epoch. We must next consider the sculpture of the Trajanic period, for the appreciation of which we have abundant material in the historical monuments raised in commemoration of Trajan's exploits in East and West. Foremost among these must be placed the sculptures of Trajan's Forum—both the spiral reliefs of the column and the *disiecta membra* of the Great Frieze, some slabs of which were used in the decoration of the Arch of Constantine. One of these is shown on Pl. LXV B. Of this Trajanic art it may fairly be said that it is more thoroughly Roman in spirit than that of any other time. Trajan, though born in Spain, did more than any other emperor to revive and maintain the true *disciplina* of early Rome; and his Dacian Wars were worthy of the sculptured chronicle which tells their story with epic breadth and grandeur. Some of these reliefs have been reproduced in this book (Pls. XIII and XLII) on account of the light which they throw on military antiquities, &c.; for the Roman love of detail found its fullest scope in the fulfilment of the task here set. It has been suggested that as the Graeco-Syrian Apollodorus of Damascus was the architect of Trajan's Forum, the new features of Trajanic art are to be set down to 'Oriental' influence: but this is to anticipate the course of events. Nevertheless it is true that the restraining conventions of Hellenic art were being broken down: and there are curious solecisms of detail which show that even the lessons of its technique were being unlearnt. We commonly find, on monuments of this time, the human eye represented as though seen in full face when it should be in profile. The truth is that Roman artists were boldly attacking problems whose solution was beyond their powers. In perspective, for example, we note the childish expedient of placing several rows of heads above one another in order to give the impression of a compact body of troops. Again, the 'continuous' style which Wickhoff claims as the chief creation of Roman art arises from the effort to tell a story, not by type or

A. Relief from the Arch of Titus.

B. Relief from Trajan's Forum.

Third-century sarcophagus (perhaps that of Timesitheus).

Pilaster in the Lateran Museum.

episode, but as far as possible by unbroken narrative. Of course this was only practicable in a small degree: and the term 'continuous' is somewhat misleading; for there are some portions of the column on which a succession of isolated scenes—such as the Address to the Troops, the Purification of the Camp, and the Council of War at the opening of the Campaign—are depicted, and others again where the action takes place under the form of a panorama whose parts are only intelligible with reference to their context. Here we may allow something for Greek traditions of balance and symmetry—as in the instance of the Fall of Sarmizegetusa, which, as Petersen has shown, recalls by the disposition of its parts the fresco of the Sack of Troy by Polygnotus at Delphi —without detracting from the boldness of the artist's conception. But we must perforce admit that Trajanic art overcharged its surfaces with decoration. The spiral column itself, with its crowded reliefs, shows a lack of taste both in architecture and in sculpture: the Arch at Beneventum (Pl. XIX B) is of intense interest as a political document, since its panels summarize the achievements of Trajan at home and abroad, but as a work of art it would stand higher if its piers were not wholly covered with reliefs. Trajanic sculpture is seen at its best in such scenes as that of Pl. LXV B, where the surging tumult of battle is finely represented: and it should be added that Roman realism found a congenial task in the vivid portraiture of barbarian types.

The progress of the new spirit was arrested by the accession of Hadrian, whose passion for Hellenism brought about an academic renascence of classicistic art of which we need not speak at length; enough to say that, like the archaism which was now the dominating fashion in literature, it was a symptom of the decay of creative power. But the classical standard had been too deeply undermined to be thus maintained, and a significant example of the conflict between tradition and the new forces is seen in the reliefs from the base of the Antonine Column, now in the Giardino della Pigna (Pls. XLVII, XLVIII). On the one side we see the apotheosis of the emperor and empress treated according to the canons of classical bas-relief; on the other, the *decursio* (p. 290), rendered with a laudable, though very imperfect attempt at perspective by a series of detached figures which wear the appearance of marionettes. It is easy to see that such a composition is no true *relief*, but rather a group placed, as it were, on a shelf in front of a plane background; and later Roman art never recovered the proper notion of relief-sculpture. Either we have the new principle engrafted on classical tradition—as in the panels from an arch of Marcus Aurelius, two of which are shown on Pls. XXXVI and XXXVII; or, by a further declension from the standard, a background in 'bird's-eye perspective' is spread out like a map to receive the figures; of this the classical example is supplied by the reliefs of the Arch of Septimius Severus. Finally, the background is altogether abolished, and the artist breaks up the whole

Pilaster in the Lateran Museum.

of his field into complementary lights and shadows, so that in spite of deep undercutting the effect of the whole is as that of a pattern on a flat surface. An example of this is shown on Pl. LXVI, which represents a sarcophagus of the Ludovici collection now in the Museo delle Terme. Mr. Yeames has made it probable that the central figure of a Roman commander[1] is C. Furius Aquila Timesitheus, the father-in-law and chief minister of Gordian III, and that the Persian War of A. D. 242–3 is the subject of the relief. The historical interest, we see, never died out in Roman art; notwithstanding, the human form is here almost reduced to a decorative function, and the sarcophagus is almost as good an example of later Roman ornament as the pilaster in the Lateran with a trellis of vines shown on Pl. LXVIII in contrast with another pilaster in the same museum (Pl. LXVII) belonging to the Flavian period, in which, as Wickhoff was the first to see, we have the counterpart of the 'impressionist' Flavian portraits. For there is no pedantic insistence on detail—the rose-petals, in fact, are not shown in their natural number—but a vivid effect of life and growth. The last stage in Roman sculpture was reached in the Constantinian period. The historical reliefs with which the Arch of Constantine is decorated are partly plundered from earlier buildings (some of these have been already mentioned), but partly contemporary. Rigid in outline and coarse in execution, they take their place beside the 'frontal' portraits mentioned above, and like them fall into a scheme of architectural decoration whose lines they are designed to emphasize. In this direction no further progress was possible.

§ 3. Painting.

For the history of painting at Rome our materials are far less abundant, and of far slighter importance, than the series of historical monuments upon which our knowledge of the evolution of Roman sculpture is based. The masterpieces of painting are irretrievably lost; and we are forced to be content with the remains of house- or tomb-decoration at Rome or Pompeii. Of the earlier history of the art in Rome we know little more than we are told by Pliny in the thirty-fifth book of the *Natural History*. The high antiquity of painting in Italy is vouched for by pictures in the temples of Ardea, 'older than the City', and others at Caere, still more ancient; of these latter we can form some idea from the Etruscan wall-paintings from Cervetri in the British Museum;[2] which, if they are the work of native craftsmen, show the influence of archaic Greek—probably Ionic—models. At Rome we hear of Fabius 'the Painter', who transmitted the *cognomen* Pictor to that branch of the Fabian gens to which the annalist of the

[1] The same person is represented by a bust in the Capitoline Museum (Sala delle Colombe 92).

[2] *J. H. S.* x, Pl. VII, pp. 248 ff.

Punic Wars belonged; he adorned with frescoes the temple of Salus, consecrated in 304 B. C. The poet Pacuvius, too, painted the walls of the Temple of Hercules in the Forum Boarium, which his patron, L. Aemilius Paulus, restored after the victory of Pydna (167 B. C.). The Roman aristocrats found in painting an art well fitted to adorn their triumphs; and from the time of M'. Valerius Messalla, consul in 263 B. C., who defeated Hiero and the Carthaginians in Sicily, we hear of 'triumphal pictures' painted in celebration of great victories. Thus Roman painting, like Roman sculpture, struck the historical note from the outset. We may perhaps form some idea of what these were like by examining a fragment of fresco found in a chamber-tomb on the Esquiline (Fig. 60), the painter of which, it has been thought, may have derived his inspiration from the frescoes in the Temple of Salus. There can be little doubt that episodes from the Samnite Wars are here depicted. The Romans are engaged with enemies who are not only of Italian race, but wear the crested helmet of the Samnite. If the M. Fannius who appears as their leader cannot be identified, we may perhaps see in the Q. Fabius who commands the Roman troops Q. Fabius Maximus Rullianus, five times consul, who was victorious over the Etruscans at Lake Vadimo in 310 B. C., and over the Samnites at Sentinum in 295 B. C. The episodes are disposed in tiers—above the surrender of a fortified city, then the conclusion of a treaty between Romans and their enemies, and below a battle scene. The neutral background, the dark flesh-tints of the soldiers, and the simplicity of the colour-scheme—relieved by a few patches of blue and yellow—confirm the relatively early date of the painting; but there is no good ground for the conjecture that the paintings of Fabius Pictor are reproduced.

The discoveries of Pompeii have made it possible to trace the development of wall-painting in Italy from about the beginning of the first century B. C. to the Flavian period; and the frescoes found in Rome fall easily into the scheme thus supplied. Pl. LXIX illustrates the style of decoration found in Pompeian houses of the Tufa period (p. 24). The wall-surface is divided into three sections. At the base we find a dado, painted either in plain yellow, probably representing a wooden wainscot, or in imitation of veined marble, as in the example here shown. The middle part of the wall has stucco mouldings with bevelled edges, painted in imitation of coloured marble slabs, and terminated by a moulded cornice; and above this the wall is painted in plain colour. At intervals a series of moulded pilasters extend from top to bottom of the wall. In this style we find no figure subjects; and its artistic importance consists solely in the fact that certain suggestions found in it were worked up in that which succeeded it. This is known as the architectural style, in contradistinction from the 'incrustation style' above described. It seems to have been adopted early in the first century B. C.—the earliest example

is found in the smaller theatre at Pompeii, built shortly after 80 B. C.—and remained in use until the Augustan period. The designs are no longer in moulded stucco, but are painted in imitation of architectural forms in order to produce the illusion of porticoes, open spaces, &c., surrounding the room. In the earlier examples

FIG. 60. Roman historical painting.

of the style the threefold division of the wall-surface is still marked; but the dado has become a projecting shelf, and the pilasters are replaced by columns which appear to stand free from the wall. The next step was to treat the uppermost portion of the wall-surface as an open space, in which vistas of buildings were painted in perspective; thus we are invited to imagine ourselves in a saloon surrounded by a colonnade and enclosed by a low

Pompeian wall-painting (incrustation style).

wall above which our gaze travels into outer space. The main wall may be decorated with imitations of framed pictures or of statues placed on pedestals resting on the shelf; and we generally find a central panel filled by a mythological subject. This panel appears in most instances to stand under an *aedicula* or niche, with pediment and free columns; and it has been argued that it represents an easel-painting hung on the wall. The question is not an easy one to answer. Pl. LXX shows a typical example of this style of wall-painting, which is taken from the so-called *tablinum* of the house of Livia on the Palatine (cf. p. 164, and see Pl. LXX, where the surroundings of the picture are seen in the centre). We see here the architectural style in its advanced form. The threefold division of the wall-surface is still to be observed; but not only is the upper space filled by sky and columns, but doorways are thrown open at the sides, through which a street scene is visible. On the lower cornice of the main wall rest framed pictures with shutters, and in the central panel we see Io seated at the foot of a column bearing a statue of Hera, with Argus on her left and Hermes on her right. Now it is easy to see that the action of this painting—with its landscape background—cannot be conceived in proximity with the streets of the side scenes; and there is therefore reason for thinking that the artist conceived it as representing an easel picture. Nevertheless, the scheme is clearly derived from that of wall-paintings with a central opening into outer space. In the simpler examples of the style—as, for example, in the villa of Fannius Synistor at Bosco Reale—a small temple or rustic shrine is very commonly found in the central position; and the column and image, beneath which Io is seated, are a survival of this convention, for which many parallels could be found. The truth is that the term 'architectural style', which is derived from August Mau's historical classification of Roman wall-paintings, does not cover the facts. It is the imagined outlook into the surrounding landscape, rather than the architectural foreground, which imparts to this style its specific character; so that we should come nearer to the truth if we spoke of the 'landscape style'. It must always be remembered that this mode of house-decoration owes its invention to the desire of town-dwellers for surroundings suggestive of the open country; we must, in fact, suppose that it originated in the cities of the Greek East, where the *oeci*, or saloons whose construction was planned with intent to secure a wide outlook, were a feature of the more luxurious dwellings readily imitated by the facile brush of the wall-painter. The 'Egyptian saloon'—no doubt an Alexandrian invention—was distinguished by its clerestory, and this motive may be clearly traced in the continuous landscapes, broken by painted pilasters, which are found in some Italian houses. The most conspicuous example of this is seen in the series of 'Odyssey landscapes' discovered in the remains of a house on the Esquiline in 1840, now in the Vatican Library. These were painted on the

Wall-painting from the House of Livia on the Palatine.

upper part of the wall-surface, and divided from each other by red pilasters drawn in perspective, so that the spectator was led to place himself before the central panel and imagine that he was looking out on a continuous landscape. We read in Vitruvius—who describes the architectural style in terms which show that at the period when he wrote it had already adopted fantastic forms—that long walls such as those of colonnades were often decorated with landscapes diversified by 'the battles of Troy or the wanderings of Ulysses'. Such a cycle of paintings must have been in the mind of Vergil when he described the temple at Carthage upon whose walls Aeneas saw the tale of Troy unfolded: and one of the chambers in the Palace of Augustus, excavated in the eighteenth century beneath the Flavian state-rooms on the Palatine, was decorated in the architectural style with panels upon one of which was depicted the landing of Helen in the Troad. The Esquiline paintings are eight in number; of these one is almost obliterated and another was partly destroyed in ancient times in order to make a door or window. Three of them represent the adventures of Ulysses in the land of the Laestrygones, the fourth shows the hero on his voyage to the island of Circe; the fifth is conceived as the central scene of the wall, and for this reason we here find the palace of Circe, as a salient architectural feature. The next scene (of which but few traces remain) is also concerned with the episode of Circe, and we then have two panels devoted to Ulysses' visit to the lower world. The landscape is the essential feature throughout the whole series of paintings; the figures are merely sketched in in order to give an added interest to the scenes. They are identified by inscriptions, and beside the characters of the story we find personifications such as the Wind-gods, the Promontories (*ἄκραι*), and the Pastures (*νομαί*). The conception of these landscapes is superior to their execution; the artist is ambitious of effects which tax the resources of painting to the full, as when he lets a thin stream of light pour through the rocky entrance to the world of shades. The spirit is that of Hellenistic art, but there is no reason to think that we have here direct copies of Hellenistic originals rather than the work of a school of decorators domiciled in Rome.

Pure landscape is represented by examples from the villa at Bosco Reale: and it was a common practice to decorate walls with the semblance of a formal garden or park. Pliny the younger gives proof that this survived at a somewhat later time when he speaks of the 'painting which imitated branches and birds perched thereon' in his villa at Tusci; and in the villa of Livia at Prima Porta we may see such a painted garden. Traces of the same decoration are also found in one of the rooms adjoining the house of the Vestals (Map 5), which may have belonged to the *domus publica*. That Roman artists played their part in perfecting this scheme of wall-decoration is shown by the fact that Pliny speaks of one Studius or Ludius, 'a painter of the time

of Augustus, who introduced a charming method of decorating walls with paintings of villas, harbours, landscape gardens, groves, woods, hills, fishponds, canals, rivers and shores—in a word, anything that took the fancy—together with figures of people walking or sailing in boats, or approaching villas by land on donkeys or in carriages, or again of fishers, fowlers, hunters, even vintagers. . . . . He likewise introduced the fashion of painting sea-side towns on the walls of open galleries.' A simplified form of this decoration is seen in the paintings of the 'black room' in the villa of the Farnesina, now in the Museo delle Terme, where just such scenes as those described by Pliny are sketched in white on black panels divided by painted columns.

It was necessary to demonstrate the importance of landscape in Roman wall-painting, since it has a direct bearing on the question of the degree of originality which may be ascribed to the artists who worked in the later styles with which the discoveries of Pompeii have made us familiar. Mau distinguishes the third or 'ornate' style, which continued in use from the Augustan period until about A. D. 50, in which the architectural design is reduced to a conventional scheme of decoration, producing no illusion of reality, from the fourth or 'intricate' style, exemplified in the latest Pompeian wall-paintings, in which the whole surface of the wall is often covered with fantastic structures, which, for all their lightness, nevertheless conjure up a certain semblance of real architecture; and the distinction is based upon patent facts. It is not so clear that he is right in regarding these two styles as independent developments from the architectural style which reflect the art of different centres. Alexandria is suggested as the home of the third style, on the ground that many of its favourite ornamental motives (sphinxes, sistra, &c.) are of Egyptian origin: as the place of origin of the fourth style Mau tentatively suggests Antioch; but there seems to be no adequate reason for doubting that the course of development was continuous from the second style to the fourth. In the latter of these we see a recurrence to the dominant 'architectural' motive, but it is the lighter forms, used decoratively in the ornate style, which do duty in its airy structures.

Now the great majority of the panel-paintings from Pompeii and Herculaneum belong to walls decorated in one or other of these two styles; and if they are to be regarded, not as exotic growths imported into Italy, but as the products of an orderly development on Italian soil, there will be the less reason for regarding the pictures as copies from lost Hellenistic originals. All that can be said in favour of this view was urged by Helbig in his work on Campanian wall-painting (see Bibliography); and no one will be found to deny that an overwhelming majority of the subjects represented are taken from Greek mythology. It might be argued that Pompeii and Herculaneum were in a Greek district and largely inhabited by Greeks; but we should probably find

the same proportion to hold good in Rome itself, if the material were more abundant. It is, however, pertinent to recall the influence of Alexandrian poetry upon Roman literature, which in this respect furnishes an apt parallel to Roman art. It has been maintained, and the thesis is a probable one, though scarcely susceptible of strict proof, that the myths, especially those of erotic tendency, which made the *répertoire* of the Italian painters, were familiar to the artists in the form given to them by Ovid and other Roman poets.[1] It is certainly true that direct copying from famous originals can scarcely ever be proved, whilst the adaptation of the painting to its surroundings becomes evident when these are taken into account. The third style is illustrated by Pl. LXXI, which reproduces a wall in the house of Spurius Mesor at Pompeii. It will be seen that the elements of the 'architectural' style, such as were seen in the house of Livia (Pl. LXX), are present, though greatly reduced in significance. The central panel presents a more direct semblance of a framed painting; yet the coffered ceiling and free columns are plainly seen, and the subject —a scene of sacrifice—traces lineal descent from those in which a rustic shrine, seen through a central opening in the wall, formed the central point in an architectural scheme. The notion of an outlook into space, then, is not wholly lost. In the fourth style, again, ancient 'illusionism' celebrates its triumph. The methods of the painter remind us strangely of those of the modern 'impressionist'. To show form as it appears in the garment of many hues woven by the play of bright sunshine—which is the highest *technical* aim pursued by painting—is the end which the painters of the fourth style strive to attain. The luxurious taste of the Neronian period called for decoration in gilded stucco to supplement the effects of painting, as is proved by the remains of the Golden House discovered in the fifteenth and sixteenth centuries; statues, too, were commonly gilded in this period, such as the famous Colossus of Nero, clothed with the attributes of the Sun-god. The Pompeian painters of the fourth style revel in the reproduction of golden pillars, statues and reliefs, lit up by the flicker of brilliant sunshine, and often thrown into high relief by a black background. The house of the Vettii (p. 163 f.), whose paintings can be studied in their original surroundings, supplies the most instructive examples of fourth style decoration. The room at the northern end of the peristyle has black walls divided into panels by painted pilasters. In the centre of each panel is a floating-figure or group; but these are of less artistic importance than a narrow strip which runs below the panels and is decorated either with Psyches gathering flowers or with Erotes engaged in work or play. In one section we find them busy with the manufacture and sale of olive-oil, in another they are employed as

[1] The *graffiti* found on the walls of Pompeii show that Augustan poetry was familiar to the inhabitants. It is noteworthy that subjects treated in Ovid's *Metamorphoses* are common in the fourth style.

Pompeian wall-painting (ornate style).

coiners.[1] Beneath the pilasters this frieze is interrupted by narrow sections decorated partly in the same style, partly with mythological paintings, small in size and sketchy in execution, but extraordinarily effective in conveying an impression of vividly lighted scenes with a few dashes of bright colour. In the *triclinium* (Fig. 29, c), which was painted at a somewhat later date than the room just described, the upper part and sides of the walls are painted with architectural perspectives, but in the central panel of each wall is a large mythological painting: the subjects are Daedalus and Pasiphae, the punishment of Ixion, and the coming of Bacchus to Ariadne. Even if we are to see in these copies—however far removed—from Hellenistic masterpieces, we must allow the artist credit for adapting them to the given surroundings, since they play their part in the imagined lighting of the room, and are accordingly painted in relation to the actual illumination which they receive from the peristyle. Nor, indeed, is there any sufficient reason for treating them as copies. Conventional they doubtless are, but chiefly in the types which compose them. The painting of Daedalus and Pasiphae cannot fail to remind us of the more famous picture of Heracles, Telephus, and Arcadia from Herculaneum in the Naples Museum. The contrast between the bronzed male figure and the pale seated female is emphasized in exactly the same way: the treatment of the nude under a strong light is in both pictures the artist's main preoccupation: attitude, not action, is studied. The same is true generally of the figure-subjects from Pompeii and Herculaneum: and we shall be right in regarding them, not so much as reflecting *directly* the higher art of their own or a previous time, but rather as examples of an ingenious system of decoration based on a limited stock of types skilfully adapted to local conditions of lighting, &c., and betraying to the end its derivation from the 'architectural' scheme in which the painter threw open windows into surrounding space.

This general statement needs, however, certain qualifications. There *are* a few subjects whose derivation from acknowledged masterpieces can be traced. The most famous of these is the figure of Medea, found in two examples not quite identical in pose and drapery, but obviously mere variants of a common type. The sorceress is represented as she stands with folded hands clasping the hilt of the sword which she still hesitates to unsheathe for the murder of her children. There can be no doubt that the original of this type was the Medea of Timomachus of Byzantium, which, together with the companion picture of Ajax, was purchased by Julius Caesar for the sum of eighty talents (£16,800) and dedicated in the temple of Venus Genetrix. Into the vexed question of the date of the original we need not now enter; but it is instructive to note that both Medea and Ajax (who was represented in contemplation of his approaching suicide) were

[1] That they are thus occupied, and not as goldsmiths, has been proved by Mr. Talfourd Ely (*Numismatic Chronicle*, 1896).

treated by Timomachus as isolated figures. The composition of the Ajax is reproduced on gems of the Augustan period, which agree in respect of the central figure, but differ in accessories: in the painting of Medea from Pompeii the scene is laid in an interior, where we see the children at play and their παιδαγωγός, but these figures are inferior in conception and execution, and the tragic figure of the sorceress loses something of its lonely grandeur by the surroundings in which we see it. The better-known Medea from Herculaneum stands alone; but it has been observed by Donner von Richter that it was executed on a specially prepared strip of plaster, and it is probable that here again the artist painted in subsidiary figures of lesser importance. This example illustrates the use made of traditional types by the Pompeian artists, and leads us to speak of the fresco technique which they used. In the brilliance of their colouring, the lustre of their surface, and the thickness of their coats of pigment, the frescoes of the ancients seem very different from those of modern times; these qualities, in fact, make it possible to regard them as something more than cheap substitutes for easel-pictures. The reason is to be sought in the elaboration of the technical process. Fresco-painting is so called because the artist works on a 'fresh' or wet surface of plaster; and as this dries quickly, he must finish his task in the short space of time during which the surface retains its moisture. Much depends on the careful preparation of the ground; and the ancient practice is described by Vitruvius, who speaks of no less than six coats of plaster applied in succession to the wall-surface. The first three were of lime and sand only, and were roughly rendered; the last three were made with marble, pounded with increasing fineness; and each was carefully smoothed and made firm before the next was applied. The result was to produce a surface which would take an artificial polish—the γάνωσις described by the elder Pliny—and upon which the artist could spread his pigments thickly and work for a considerable length of time.[1] We can often detect the outlines traced by the painter on the moist surface as a rough guide to the position of his figures; for it is to be observed that the ancients did not transfer their subjects mechanically by means of cartoons, but sketched them in free-hand drawing before painting them in. This was only possible on such surfaces as we find at Pompeii.

It is no doubt remarkable that—except in landscape and genre-scenes—the Pompeian painters should have drawn their subjects, with so few exceptions, from Greek mythology; but it must be remembered that the national epic was not rich in dramatic situations. It was not, moreover, wholly neglected. In a painting discovered in 1903 the story of Rhea Silvia is depicted in a series of scenes on a single landscape background. In the sky

[1] Recent researches, chiefly carried on at Munich, with a view to the scientific improvement of fresco technique, are described in the *Neue Jahrbücher für das Klassische Altertum*, 1908, 127 ff.

Mars is seen approaching the Vestal as she lies asleep: here the artist employs a well-known scheme applied to Selene and Endymion, Zephyrus and Chloris and other myths. To the left is a group of Salii; in the centre the priestess is being led to prison; and in the foreground of the picture Mercury is pointing out to Rhea Silvia the twins and their foster-mother, the wolf, beneath the *ficus ruminalis*. Other figures serve to personify the local divinities of Rome. The composition as a whole is devoid of merit, and belongs to the class of landscapes enlivened by figures drawn from mythology. It has been noted that such figures often correspond with types familiar to us from the terracottas of Tanagra or Myrina; and the inference has been drawn that both fresco and terracotta are derived from a Greek or Hellenistic painting. But this is far from likely. The use of traditional *sculptural* types by painters suffices to account for these coincidences. A word may be said in this context of the famous 'Aldobrandini Marriage', discovered in 1607 and now in the Vatican Library. It probably belongs to the Augustan period, and was taken from the upper part of a wall decorated in a variety of the architectural style: a certain note of severity in its composition, which is that of a bas-relief rather than of a painting, caused it to be ascribed to pre-Alexandrine art. On the other hand, the fact that the central group—Aphrodite and the bride—is closely paralleled by a terracotta of the third century B.C., from Asia Minor, has been held to show that the supposed original was of Hellenistic date. There is in reality no need to posit such an original. Graceful as the composition is, it is far from lucid in its details—witness the varieties of interpretation proposed by modern scholars; nor does it stand alone, for there are similar groups, as for example in the remains of the Golden House of Nero, which have the same superficial appearance of classical severity, but are even more evidently made up of well-worn types. They are the handiwork of a 'classicizing' school, which retained its traditions beside those of the more 'modern' decorators.

But for all their technical adroitness, the wall-paintings of Rome and Pompeii do not arouse our enthusiasm; convention takes the place of inspiration, and we are forced to admit that if they reflect in any degree the spirit of high art, it was doomed to the decay which awaits such academic movements. And this is what the ancient art critics teach us. Petronius, no mean *connaisseur* of art as of literature, attributes the decline of painting to the 'bold innovation of the Egyptians', without telling us in what this consisted: it must clearly refer to the fresco technique as elaborated at Alexandria, and thence imported into Rome at the commencement of the Imperial epoch. Pliny the elder speaks of painting as a 'dying art'; and the few Roman painters whom he mentions by name owe this distinction to accidental circumstances.

Nothing remains of the works of these artists, unless we may regard the frescoes of the Golden House as representative of the paintings of Fabullus or Famulus, of which Pliny speaks (*H. N.* xxxv. 120) as 'brilliant and lifelike'. The finest of these have, however, long since perished. The easel-pictures of antiquity were painted either in *tempera*, the medium of which was yolk of egg mixed with fig-sap, or in encaustic. This lost technique, which may be said to have held the place now occupied by oil-painting in ancient times, can now be studied in extant examples which, though not works of high art, convey an accurate impression of the technical qualities of encaustic. These are the coffin-portraits discovered in several Egyptian cemeteries, principally at Rubaiyat and Hawara. In late Ptolemaic or early Roman times the fashion of decorating the mummy-case with a mask representing the deceased gave way to that of inserting a panel-portrait. The panel was primed, either with a dark resinous substance or with white distemper, and upon this ground the portrait was painted, sometimes *a tempera*, but more often with wax pigments. It is this latter technique which must be identified with the ancient encaustic, described by Pliny (*H. N.* xxxv. 149) in a passage which has sorely vexed the commentators. Pliny clearly distinguishes two kinds of encaustic painting, one on ivory, the other (presumably) on wood or other materials; he also mentions an instrument—the *cestrum*—used by encaustic painters. Donner von Richter believes that the *cestrum* was a serrated instrument which took the place of the brush, and that it was used in both processes, being heated in order to assist the spreading of the pigments, which were laid on cold, the wax having been liquefied by mixing with oil. The Fayum portraits, however, show clearly that the brush was used, and there are also abundant traces of a *blunt* point, though not of a serrated instrument. A fresco discovered in a late Greek tomb in the Crimea shows an 'encaustic' painter in his studio, hung with portraits, in the act of heating what seems to be a spoonful of paint over a flame. It seems therefore more likely that in panel-painting the pigments were applied in a melted state by means of the brush, and that the *cestrum* was only used on ivory. The process was a tedious one, and its principal use was in portrait-painting: the Egyptian examples cover a period of nearly two centuries—from the time of Claudius to that of the Severi.

§ 4. Mosaic.

Like the sister art of painting, that of the mosaic-worker was of Greek importation in Rome. It suited well with the Roman taste for costly decoration and imposing effects, and was carried to a degree of perfection unknown in Greece. The history of the art may be traced by literary allusions to the period of the Hellenistic monarchies; Hieron II of Syracuse, and Ptolemy IV, are

mentioned amongst its patrons, and it seems to have flourished especially at the Attalid court of Pergamon. Here we find the first artist in mosaic whose name is preserved—Sosus, whose 'unswept room', strewn with fragments of food, &c., inspired such compositions of later date as the mosaic signed by Heraclitus in the Lateran Museum, and whose 'dove drinking and throwing its shadow on the water' recalls the famous mosaic of the Doves (to be mentioned later) in the Museo Capitolino. The brief passages of Pliny on the early history of mosaic and its introduction into Rome are somewhat obscure; but the true interpretation seems to be as follows. He tells us first (xxxvi. 184) that 'pavements—i. e. mosaic pavements—had their origin in the Greek world, where the art (of mosaic) was developed after the manner of painting until ousted by marble incrustation (*lithostrota*).'[1] In the following section he says that 'mosaic pavements (*pavimenta*) must have been well known in Italy before the wars of Marius, since they are mentioned by Lucilius in the line

Arte pavimenti atque emblemate vermiculato;

and in § 187 he tells us that *lithostrota* were introduced in the time of Sulla, who constructed a pavement of small slabs of marble still to be seen in the Temple of Fortune at Praeneste;[2] then, he adds, 'mosaic pavements were driven from the floor and passed to the ceiling *in the form of glass* (*vitro*, if this reading be correct), which was a new invention.'

The distinction thus drawn by Pliny between floor-mosaics and marble pavements on the one hand and the glass-mosaics used for ceilings on the other is important; but it is not true that mosaic was 'driven from the floor' by the use of marble, since the second century A. D. was the period of its most widespread popularity and highest artistic excellence. Unfortunately, we know little of classical wall-mosaic in glass. It is this which properly bears the name *opus musivum* (from which 'mosaic' is derived), being so called because it was used for the decoration of *musaea* or artificial grottoes, of which we can form an idea from the fountains in some Pompeian houses. The mosaics which adorn the apses and walls of early Christian churches—especially those of S. Maria Maggiore—form our best evidence for the nature of this kind of mosaic, which was made of glass cubes glittering with gold or enamels, whose brilliant colouring was produced by means of metallic substances added in the process of manufacture, the glass having been rendered opaque by the addition of oxide of tin. The gorgeous backgrounds are formed of glass cubes backed with gold leaf; but it is worthy of note that in the

[1] *Arte* has been needlessly altered by many editors to *ante*, implying that Greek pavements were *painted* until mosaic (*lithostroton*) was invented. The statement is absurd, and the meaning given to *lithostroton* incorrect.

[2] It is thought that this pavement can be recognized in one recently brought to light at Palestrina.

unrestored portions of the mosaics of S. Maria Maggiore gold is but sparingly used, and the artist has at his command a rich scale of tints with which he can produce broad but highly impressive atmospheric effects. We must suppose that the walls and ceilings of the baths and palaces of the later Imperial period, where they were not incrusted with coloured marbles, were decorated in this style. The loss of the great wall-mosaics is the more to be regretted since (if we may judge from those of early Christian times) Roman artists seized the true principles of effect in this material. They did not seek to emulate painting, concealing the joints in order to attain smoothness of surface, nor did they use an excessive number of tints, but were content with the broad effects proper to mosaic, which should always be decorative rather than naturalistic, and adapted the simple lines of their compositions to the architectural surroundings in which they were placed.[1]

The bulk of the classical mosaics which have been preserved belong to the pavements of private houses and villas, and are made of cubes of marble or coloured stone. A distinction has been drawn between *opus tessellatum*, in which regular geometrical patterns or conventional figures were used and the scale of colours employed was limited, and *opus vermiculatum*, the technique of all the finest mosaics with figure-subjects, in which the cubes are laid irregularly and the artist aims at pictorial effects. In the line of Lucilius quoted above it is supposed that *emblema vermiculatum* means a mosaic picture produced by this latter process and inserted as a panel in a *pavimentum* of 'tessellated' work forming a geometrical border—just as we commonly find the figure-subjects introduced in Roman mosaic; and this may be correct. In Pliny, however, *crustae vermiculatae* are the slabs of coloured marble used in *opus sectile*, a form of decoration distinct from mosaic, in which a picture was built up with irregularly shaped pieces of marble. We possess very few specimens of this 'painting in marble', which, according to Pliny, came into fashion in the time of Claudius; the best are some groups of wild beasts and their prey from the basilica built by Junius Bassus on the Esquiline in A.D. 317, which are now in the Palazzo dei Conservatori.

The distinction drawn above is, however, important. In Roman mosaic the geometrical and pictorial elements are always clearly to be distinguished. It is, of course, the latter which lends itself to the higher artistic treatment; we find it in the place of honour, and as time goes on it becomes increasingly important; but, like the purely ornamental patterns, it dates back to pre-Roman art. The proper term for a mosaic-picture is *emblema* (as in Lucilius),

[1] Mr. C. H. Townsend (*Journal of the Royal Institute of British Architects*, 1894, p. 247) has some excellent remarks on this subject; he goes too far, however, in saying that the mosaicist should renounce all aerial and atmospheric effects: the mosaics of S. Maria Maggiore and S. Pudenziana show that these are not beyond the scope of the art.

and the word implies that in Hellenistic art such were *inserted* in ornamental pavements. A good example of such an ἔμβλημα, bearing the signature of a Greek artist, is to be found in the mosaic of Dioscurides of Samos, from the so-called villa of Cicero at Pompeii, which represents a musical performance in the theatre;[1] but the most remarkable is the mosaic of the Doves in the Capitoline Museum, which was found in the villa of Hadrian at Tivoli. The subject recalls the words of Pliny, who, in describing the 'unswept floor' of Sosus of Pergamon (v. *supra*), adds—*mirabilis ibi columba bibens et aquam umbra capitis infuscans*; but we have no need to go so far in search of the artist's model. The subject of birds perched on the edge of a bowl or basket was common in various forms of art; and the remarkable feature of this example is the minuteness of the work, which cannot escape the criticism passed above on mosaics which seek to borrow the tricks of painting. It is said to have as many as 160 cubes to the square inch.

It was not unnatural that the ἔμβλημα, when small in size and reserved for the central panel of a large floor, should thus be treated as a framed picture with the utmost elaboration of detail; but a more effective decoration was obtained by reducing the geometrical and other ornament to the function of a border, and giving up the greater part of the pavement to landscape or large figure-subjects. The landscapes with their accessories are often Egyptian, and betray the Alexandrian origin of this form of decoration; Pl. LXXII shows a good example, found in the remains of a private house on the Aventine. We see the Nile in the foreground, with a crocodile and hippopotami attacked by pigmies with darts; the lotus and palm, too, help to define the scenery. The most famous example of the Egyptian class of landscape is the mosaic of Palestrina, now in the Palazzo Barberini in that town, which has been variously dated, but may almost certainly be attributed to the time of Hadrian, to whose order it was possibly executed. Egyptian scenes were used as decorative elements in the mosaic of Heraclitus, now in the Lateran Museum.[2] In the mosaic shown on Pl. LXXII the border, whose main motives are the *guilloche* and spiral, encloses panels which alternately display theatrical masks and still-life subjects, both commonplaces of the mosaic-worker's *répertoire*.

[1] The Hellenistic origin of many mosaics from Pompeii is shown by their subject; thus the group of philosophers popularly called the 'School of Plato', of which one example was found at Pompeii and a second (differing from it in details) near Naples, is unquestionably a Greek composition. The famous mosaic of the Casa del Fauno at Pompeii, which represents Alexander and Darius at the battle of Issus (or possibly Gaugamela), has been thought to be derived from an original not of mosaic but of painting.

[2] The records of its discovery on the Aventine show that a central *emblema* (removed in ancient times) was surrounded by a border of Egyptian landscape panels, while the rest of the floor was decorated (after the fashion of the 'unswept room' of Sosus) with objects such as shell-fish, &c., representing the remains of a meal.

Egyptian landscape : mosaic found on the Aventine

The proportions of ornament and subject varied largely. On Pl. LXXIII is figured a mosaic found in a Roman villa at Woodchester, in Gloucestershire, about two miles from Stroud, towards the close of the eighteenth century. The villa was a large one, containing sixty-four rooms, grouped about a courtyard just over 90 feet square; and the mosaic, a square of 48 feet 10 inches with a circular panel in the centre, 25 feet in diameter, gives an excellent illustration of the decoration found in the richer houses of so remote and comparatively poor a province as Britain. Here the geometrical designs (mainly based on the guilloche and fret, with one band of vegetable ornament) are the really important element in the artistic scheme. The conventional divinities in the spandrels and the processions of animals, which recall early Oriental art, are themselves only decorative. Even the reduced plan of the Villa of the Laberii at Uthina, given on Pl. XXX, will suffice to give an idea of the prevalence of pure ornament in provincial houses—even those of so rich a district as North Africa,[1] which vies with the valley of the Moselle in its wealth of mosaic pavements. One or two *emblemata*, not of much importance; here and there a landscape, or only the suggestion of a pool conveyed by the figures of fish and sea-creatures; the rest are patterns. To the sea-pieces belongs such a floor as that from which the representations of ships, figured on pp. 323 ff., are taken. Here the mosaic was crowned by a colossal mask of Neptune, flanked by Loves riding on dolphins. As art declines under the later emperors, the *emblema* naturally loses its importance. Where we have figure-subjects, they are subordinated to the general scheme of ornament, as in the celebrated mosaic of Trier, signed by Monnus, where the spaces marked out by a pattern made up of squares, lozenges, and octagons are filled with the figures of poets and philosophers; or, on the other hand, the field is covered with coarsely executed figures of athletes, circus-racers, and gladiators, as in the large mosaic from the *palaestra* of the Baths of Caracalla, now in the Museum of the Lateran. These are silhouetted in black on white, according to a fashion which becomes prevalent in the time of the Severi; the search for gorgeous effects of colour is left to the designer of wall-mosaics in glass.

That the mosaic-workers of the West were Romans—or at least Romanized provincials—is shown by the inscriptions on the mosaics, which are usually in Latin, by the names of the artists whose signatures are preserved, and by the subjects which they treat. A mosaic found at Lillebonne, near the mouth of the Seine (Juliobona), is signed by T. Sennius Felix, of Puteoli; his apprentice, Amor, is a Gaul. Monnus, who worked at Trier, was most probably a native of the Rhineland. Still more striking is the

[1] The art of mosaic received an impulse in this region from its rich variety of coloured marbles. So, too, in South Gaul and North Spain the quarries of the Pyrenees furnished abundance of material.

Mosaic pavement at Woodchester.

place of honour accorded to Roman poets and their works. Pl. LXXIV shows an *emblema* from a pavement found in the *tablinum* of a villa at Hadrumetum (Sousse in Tunis), which represents Vergil seated—the portrait is undoubtedly intended as a faithful reproduction of the poet's features, and has some iconographic value—holding in his hand a roll inscribed with the quotation, *Musa mihi causas memora quo numine laeso* (*Aen.* i. 8), and attended by the Muses of Epic and Tragedy; in one of the *alae* of the *atrium* was found a pavement on which the parting of Dido from Aeneas was portrayed, and this was doubtless balanced by another Vergilian subject. It has also been shown by Gauckler that the legends of Greek mythology are evidently derived by the artists, not from the original texts, but from the adaptations of Ovid—the loves of Jupiter, and such subjects as the transformation of Actaeon and the story of Narcissus, are traceable to the Roman poet. That the myth of Cupid and Psyche is treated by African artists (at Carthage and Utica) can have no other reason than the popularity given to the story by the *Golden Ass* of Apuleius. We are justified, then, in treating the mosaic of the Antonine period as one of the most characteristic and widely diffused artistic handicrafts called into being by the peace and prosperity of the early Imperial period; and the existence of relatively good work in this medium in districts so remote as Northern Britain is one of the clearest material proofs of the civilizing power of Rome.

§ 5. Gems.

The art of the gem-engraver, practised from immemorial times in Egypt and Babylonia, found its way into Italy with the civilization of the Etruscans. Of the two forms used for signets by the Oriental nations, the cylinder of Mesopotamia, and the *scarabacus*, or sacred beetle, of Egypt, the latter was adopted in Etruria, and the engraving of scarabs became the highest and most characteristic form of Etruscan art, though in this as in other fields the inspiration of the Italian craftsmen was drawn from Greece. The finest of the Etruscan engraved gems belong to the archaic period; they may be thought even to surpass their Greek models in minuteness of execution and technical finish. Etruria, however, lacked the genuine artistic feeling of the Greek, and hence the promise held out by these early triumphs was not fulfilled in later periods. We are not here concerned with Etruscan gem-engraving, nor is it necessary to discuss at length the earlier gems with Latin inscriptions, which represent the degeneracy of the art implanted on Italian soil by Rome's northern neighbours. The use of signet-rings by the Romans was of great antiquity; they were at first made of iron, and according to Pliny the custom of wearing such rings was retained by several ancient families. Marius, we are told, wore an iron ring according to custom at his triumph over Jugurtha. The use of the gold

Vergil and the Muses : mosaic found at Hadrumetum (Sousse).

ring was at first a privilege bestowed for military prowess; it was afterwards acquired by the civil magistrates, and gradually extended to other classes, such as senators when representing the State on embassies; in time it became the distinguishing badge of the equestrian order, and ultimately merely the symbol of free birth. Whether of iron or gold, the Roman's ring served as the setting of his signet. The rich, of course, used precious stones for this purpose—we are told that Scipio Africanus was the first so to wear the sardonyx, which is the commonest stone among the signets of Republican date—but the great majority were content with imitations in glass, enormous numbers of which are preserved. Though the form of the scarab was given up, the art of the Roman gem-engraver was in its origin derived from that of Etruria; a fresh current of influence, however, set in from Hellenistic Greece, passing through the Greek colonies in Campania. The gems of this class are distinguished from those of the Etruscan type, not only by their style, but also by the choice of subject: the Etruscans borrowed freely from the cycles of Greek heroic mythology, the Hellenistic engravers preferred the more graceful and less significant types belonging to the *entourage* of Dionysus or Aphrodite.

In the Hellenistic period the art of gem-engraving was carried to a high degree of perfection at the capitals of the great monarchies, especially at Alexandria and Antioch. From the time of Alexander the Great—who, as we are told, allowed his features to be engraved by no artist except Pyrgoteles[1]—portraiture on signet-gems became increasingly common; and a new field was opened up by the invention of the *cameo*, in which the design is engraved in relief, not sunk as in the commoner *intaglio*. It cannot be shown that any extant cameo was engraved before the time of Alexander; the earliest datable examples come from graves in South Russia belonging to the first half of the third century B. C.[2] Since the cameo was not a signet, but purely decorative in function, being attached as an ornament to cups, articles of furniture, &c., or worn as an article of personal adornment, it was not limited in size, and with the growing luxury of the time came the manufacture of large cameos, notably at Alexandria, often with portraits of the ruling house.[3] The material of the cameo was almost without exception the sardonyx, of which there are two main varieties. The Indian sardonyx in its

[1] Plin. *H. N.* vii. 123, xxxvii. 8. In the latter passage Pliny states that it was only *in emerald* that Pyrgoteles had this exclusive right to reproduce the features of Alexander.

[2] Moreover, it is to be noted that the subjects treated by cameo-cutters (when not portraits) are mythological scenes conceived in the Hellenistic spirit; the 'classicizing' school, who reproduced earlier statuary types, were engravers of *intagli*.

[3] The two finest works of this kind bear portraits which have been thought to be those of Ptolemy Philadelphus and Arsinoe; but if so, they are highly idealized. Furtwängler prefers to see in them Alexander and Olympias.

simplest form has two layers—the upper ivory-white, the lower brown; thus the design was shown in white on a dark background. This stone is, however, found with as many as nine layers of various shades,[1] and the warmth and transparency of its tones render it capable of brilliant effects in the hands of a first-rate artist. The masterpieces of Hellenistic gem-engraving are executed in this material. Towards the close of the period the Arabian sardonyx came into use and was the more popular under the Roman Empire. This stone has an upper layer of bluish-white, and a dark, almost black, opaque under-layer, and does not possess the brilliancy of the Indian variety; its cooler tones, as Furtwängler remarks, are in keeping with the spirit of academic classicism which animates Augustan art.

The art of gem-engraving became popular in Rome during the last century of the Republic, and collections of the finer specimens were formed by Roman connoisseurs. Pliny tells us that the first of them was made by M. Aemilius Scaurus, the aedile of 58 B.C. (cf. p. 354), and that Pompey dedicated a second, but less valuable one, which formed part of the spoil of Mithradates, in the Capitol. Six collections were placed by Caesar in the Temple of Venus Genetrix, a seventh was dedicated by Marcellus in the Temple of the Palatine Apollo. The Romans of this period, again, began to exercise care in the choice of their signet-rings: that of Sulla was engraved with a representation of the surrender of Jugurtha—an early monument of Roman historical art. We possess a number of signets bearing portraits which are shown by their style to belong to the closing century of the Roman Republic—Caesar, Pompey, and Cicero are all represented; and there is a fine cornelian at Berlin, said to have been found in a tomb near that of Caecilia Metella, with a head of Sextus Pompeius, signed by the artist Agathangelos (Pl. LXXV, 5). The gem-cutters of this school were of Greek nationality, as were those of the Augustan period. Of these the most famous was Dioscurides, who made for the founder of the Empire the signet which he used in his later years.[2] We possess signed gems by this artist and his three sons, Eutyches, Herophilos, and Hyllos, the first of whom names his birthplace Aegeae in Cilicia, while the second was the engraver of a fine cameo-portrait of Tiberius in turquoise-coloured glass, now at Vienna. Dioscurides himself is represented by a number of gems; but the authenticity of their signatures is often doubtful, and some are palpable forgeries, like the majority of the signed gems in modern collections. Those which have withstood the test of criticism show him to have been a singularly versatile artist. Amongst his *intagli* (generally cut in cornelian) we find examples of the 'classicistic' subjects preferred

[1] The finer of the cameos mentioned in the previous note has nine layers.

[2] Augustus at first used a sphinx as his signet, then a head of Alexander the Great, *ad evitanda convicia* (Plin. *H. N.* xxxvii. 8), and finally his own portrait.

by the taste of his age; he reproduces, for example, statuary types of the fifth century B.C., and the figure of Diomed with the Palladium (Pl. LXXV, 2), borrowed from a larger composition (including Odysseus), the original of which was probably a work of 'Toreutic' (see below, p. 429). In portraiture he was not content with reproducing Greek originals (such as a fine head of Demosthenes on an amethyst), but chose subjects amongst the Romans of the late Republic. A sard in the British Museum, with a full-face portrait of Julius Caesar, bears a signature which, though modern, may be copied from a genuine original; and the same may be asserted with even greater probability of the inscription on an amethyst in Paris with a portrait popularly called 'Maecenas', but thought by Furtwängler to be that of Cicero (Pl. LXXV, 1).[1] But to the student of Roman art his chief importance lies in the fact that, in the opinion of such connoisseurs as von Schneider and Furtwängler, he was the engraver of the earliest and finest of the great historical cameos—the 'Gemma Augustea' at Vienna (Pl. LXXVI),[2] which is as typical a product of Augustan court art as the reliefs of the Ara Pacis.[3]

The Vienna cameo was once in the treasury of the Church of St. Sernin at Toulouse, and was afterwards in the possession of the kings of France. It is an Arabian sardonyx engraved with two bands of relief, the upper of which is about one-half as high again as the lower. Above we see Augustus enthroned in the pose of Jupiter, with the sceptre in his left hand, and the eagle at his feet. In his right hand, however, he holds the *lituus* or curved wand of the *augur* (p. 285), the significance of which will be discussed presently. Beside him sits the goddess Roma, wearing a triple-crested Attic helmet like the Parthenos of Phidias. Above them is shown in the sky the Sign of Capricorn. Behind the throne is a group of divinities hardly to be identified with certainty. The most probable view is that the female goddess with the crown of towers is the Inhabited Earth—the Greek Οἰκουμένη—who places a wreath of oak-leaves on the emperor's head; the male figure will then represent Time (Χρόνος),[4] and the seated goddess will be the Roman Tellus, characterized by the *cornucopiae* and children. To the left we

[1] The subject must at least have been a famous personality, since he was also portrayed by the artist Solon on a gem of which we possess four modern copies.

[2] The argument depends on the similarity of style (especially in the delicate modelling) between the Gemma Augustea and a signed cameo in Berlin, once possessed by Benvenuto Cellini and admired by Michelangelo, which represents Heracles and Cerberus.

[3] The 'Blacas' cameo of Augustus in the British Museum is a masterpiece of the same period (Pl. LXXV, 4), but we cannot name the artist.

[4] The male divinity has often been interpreted as Caelus or Oceanus; but Time and the Earth are similarly grouped together on the famous relief of the Apotheosis of Homer in the British Museum, which is of Alexandrian origin —the figures in question are believed to be idealized presentations of Ptolemy Philopator IV and Arsinoe.

1. Portrait of Cicero. Black agate at the Hague. 2. The Rape of the Palladium, signed by Felix. Sard from the Marlborough Collection. 3. Portrait of Julia, daughter of Titus, signed by Euhodos. Aquamarine in the Cabinet des Médailles. 4 Portrait of Augustus. Sardonyx in the British Museum. 5. Portrait of Sextus Pompeius, signed by Agathangelos. Cornelian in the Berlin Museum. 6. Commodus hunting. Niccolo in the Cabinet des Médailles. 7. Portrait, possibly of Constantius II. Amethyst at Leipzig.

see Tiberius as *triumphator*, alighting from a car driven by Victoria; beside the car stands Germanicus, in cuirass and *paludamentum*, with his hand on his sword-hilt. These figures give the key-note of the composition; it is an idealized presentation of the moment at which Tiberius, during his triumph in A.D. 12, celebrated in honour of the suppression of the great Pannonian revolt of A.D. 6–9, the glory of which exploit was shared by his adopted son, alighted from the car before ascending the Capitol and did homage to Augustus. We can now explain the *lituus* held by Augustus, which indicates that the victories of Tiberius were gained under his *auspicia*; and also the presence of the Sign of Capricorn, under which the triumph of Tiberius was celebrated.[1] This interpretation is confirmed by the lower band of relief, in which we see a trophy set up by Roman soldiers, and two groups of captives—to the left Germans, to the right Celts (note the *torques* worn by the old man), who are being roughly handled by barbarian allies of Rome, doubtless (as Furtwängler suggests) the Thracian troops of the client prince Rhoemetalces. The cameo shows that blending of the real with the ideal which is characteristic of official Augustan art; it also betrays its dependence on Alexandrian tradition by the introduction of Χρόνος and Οἰκουμένη, beside whom Tellus holds a somewhat incongruous position.

Amongst the contemporaries of Dioscurides were not a few who bore Latin names; but their signatures are written in Greek characters, and we should probably regard them as craftsmen from the Hellenic East, who attained the freedom and citizenship of Rome. Such is Felix, who was the engraver of a cornelian upon which is reproduced the composition from which Dioscurides took his Diomed (see above); in the background are the walls of Troy, in the foreground Odysseus pointing to the body of a slain watchman. This gem also bears the inscription ΚΑΛΠΟΥΡΝΙΟΥ CЄΟΥΗΡΟΥ, which is doubtless that of the owner; and the similar inscription, ΠΟΠΙΛ ΑΛΒΑΝ, on a cornelian (Fig. 61), with a superb design of Neptune—or perhaps Augustus idealized as Neptune—driving a car of hippocamps (which may commemorate the victory of Actium, and is at any rate of Augustan date), most probably also gives the owner's name. Amongst the engravers of this time who bear Roman names we may name Rufus, who signs a cameo with a design of Victory soaring aloft in her car, which occurs on various other gems, and is doubtless derived from a painting—*Victoria quadrigam in sublime rapiens*—ascribed by Pliny to the Greek artist Nicomachos: the picture was dedicated by L. Munatius Plancus on the Capitol, and thus became familiar to Roman artists. Other engravers—Gaius, Gnaeus,

[1] This is the most natural explanation of the sign in the present context; it has also been referred to the date of Augustus's 'Restoration of the Republic', or to the horoscope of Tiberius (who, however, was born under the Sign of the Archer).

Gemma Augustea.

Lucius, Aulus, and Quintus—sign with Latin *praenomina*, but are of Greek descent: the two last-named were sons of Alexas.

As in sculpture (pp. 381, 391), so in gem-engraving, the academic traditions of Augustan classicism were bequeathed to Julio-Claudian art. From this period date many of the finest historical cameos with portraits of the Imperial house: above all, the 'Grand Camée' of the Cabinet des Médailles, formerly in the treasury of the Sainte-Chapelle, which is said to have been brought from Constantinople by Baldwin II, the last of the Latin emperors, and presented by him to Louis IX (Pl. LXXVII). In technical execution this cameo is inferior to the Gemma Augustea, and is on that account ascribed by Furtwängler to a Roman artist; but in composition, and in the proportion of its several parts, it may justly be held superior. This, the largest of existing cameos (it measures 0·31 by 0·265 metres), is an Indian sardonyx, worked for the most part in three layers (though in some places five are

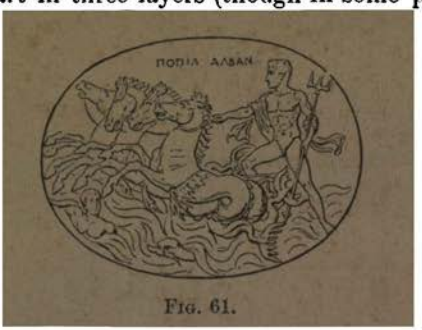
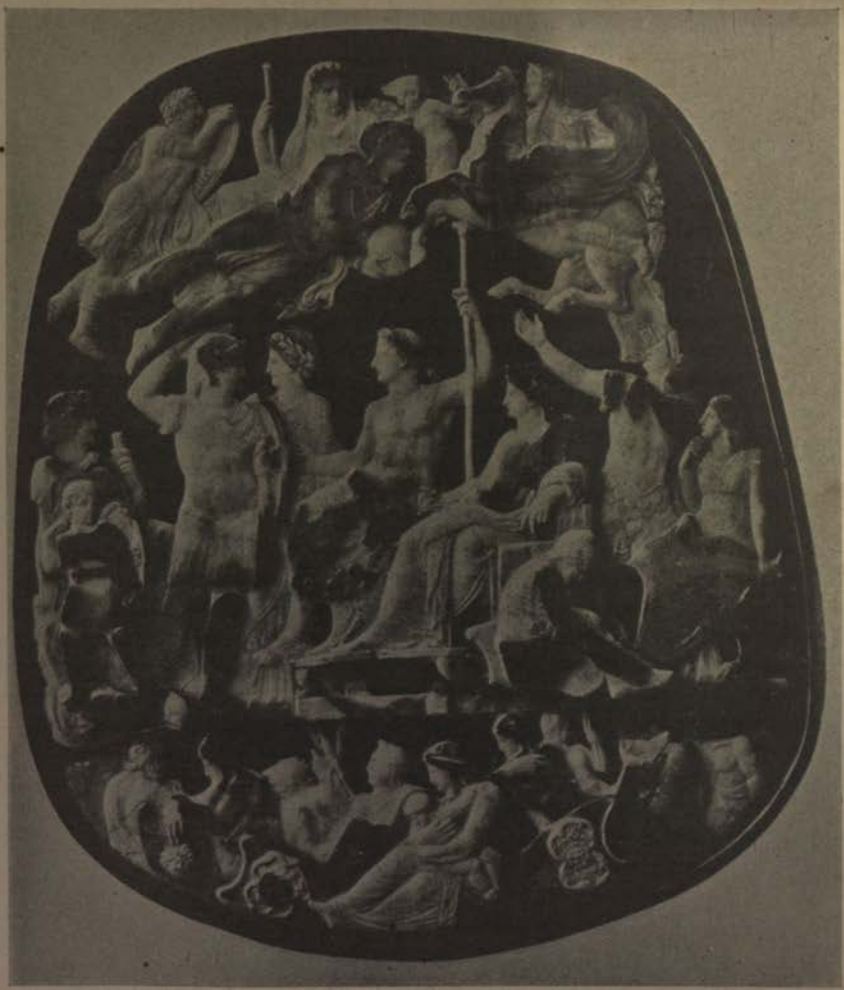


Fig. 61.

used) and in very low relief. Fortunately, we are at no loss to determine its date and significance. In A.D. 17 Germanicus, having returned to Rome from the Rhine, where he had avenged the defeat of Varus by a series of punitive campaigns, was dispatched by Tiberius on the ill-starred mission to the East, from which he was fated never to return. This event is commemorated by the cameo, the greater part of which is occupied by a representation of the *domus divina* in earth and heaven, planned on a more ambitious scale than in the Gemma Augustea, while the symbolical groups of barbarian captives are confined to an exergue. In the centre we see Tiberius[1] and Livia enthroned, and before them stands Germanicus in full armour, while his mother Antonia places her arm about his neck. Behind the Imperial throne are a couple who can hardly be other than Drusus, the son of Tiberius, and his wife Livilla; we shall then identify the woman and child who balance this group as Agrippina and Caligula.[2] This scene is linked with the vision of the

[1] He holds the *lituus*, as Augustus does on the Vienna cameo, and for the same reason.

[2] The female figure has also been explained as the Muse of History, on account of the roll which she holds.



The *Grand Camée.*

departed members of the house by the trophy which Drusus upholds, and by the gesture of his outstretched arm, which points to the majestic figure of the deified Augustus, borne aloft (as it seems) by a figure whose Phrygian costume points to the Trojan ancestry of the Julii. Whether Julus-Ascanius or Aeneas himself is meant it is hard to say. This figure holds the globe in his hands, and is met by a bay-crowned youth riding a winged horse, whose reins are held by Cupid. He lifts his hand in greeting to Augustus, and is balanced by the figure of a warrior bearing a shield, in whom we recognize the elder Drusus. It has been thought that the rider of the winged steed is Germanicus, now dead (A.D. 19), whose apotheosis is here depicted; but this can hardly be. Marcellus is suggested by Furtwängler, following Peiresc. The barbarians of the exergue (damaged in parts) are partly Western, partly Oriental; the crouching figure (perhaps that of a Parthian hostage) beside the Imperial throne links the main subject with these subsidiary groups.

The first dynasty of the Empire was the period of highest achievement in cameo-engraving; we have no works of later date which can compare with those just described. Yet it is to be noted that the production of figures or vessels in precious materials survives as a branch of art after the cameo has had its day. There is a portrait-head of Augustus in turquoise at Florence, and the British Museum possesses a beautiful head of Agrippina the younger in *plasma* (root of emerald), a material especially popular in the first century A.D.; and there are fine works of the kind belonging to the second century. With them we may class the vases carved cameo-like in sardonyx; the most interesting in a historical sense is that in the Berlin Museum, whose reliefs bear evident reference to the birth of a prince of the Julio-Claudian house. The Portland vase, on which see p. 440, is an imitation of such works.

In gem-engraving, as in sculpture, we find that portraiture is the most characteristic product of the Roman artists, who retain somewhat of their cunning throughout the Imperial period. One of the finest of Roman engraved stones is the head of Julia, daughter of Titus, on an aquamarine in the Cabinet des Médailles, signed by the Greek artist Euhodos (Pl. LXXV, 3); and there are many fine Imperial portraits of the second and even later centuries.[1] In the second century, however, the art of gem-cutting began to suffer a steady decline. To the decadent taste of the time precious materials seemed more worthy to be prized for their own sake than as the medium of one of the subtlest of arts;

[1] Pl. LXXV, 6, in the Cabinet des Médailles, which represents Commodus hunting, is a good example of second-century art; the stone is a 'niccolo', i.e. a sardonyx with a greyish-blue upper layer and a brown under-layer in which the *intaglio* is cut. This gem was very commonly used under the later Empire. Pl. LXXV, 7 shows a portrait of a fourth-century emperor on an amethyst in Leipzig (perhaps Constantius II).

and the gems with mythological subjects become increasingly uninteresting. As the magical element in ancient religion grew in importance, so did the superstitious reverence for precious stones, and the art of the gem-cutter was at length forced to find its main activity in the engraving of mystical symbols such as those of the 'Abraxas' stones of the Gnostics.

§ 6. Plate.

The art of the gold- and silversmith, like that of the gem-engraver, is one which flourishes in an age of accumulated wealth. It was, therefore, natural that it should find a home at the capitals of the great Hellenistic monarchies; natural, too, that its masterpieces should be eagerly sought by Roman connoisseurs, and copied for those who could not afford to purchase originals. Pliny devotes a brief section of the *Natural History* (xxxiii. 154–7) to the masters of τορευτική (Lat. *caelatura*), i.e. the art of the silver-chaser, derived from a clumsily compiled Dictionary of Greek Artists. It is interesting as showing that Asia Minor and the islands were important centres of production, and also that the art continued to flourish down to Roman times, since the latest datable name in his list is that of Pasiteles (*circ.* 50 B.C.). Pliny also gives the prices paid for some famous specimens. A pair of cups by Zopyrus, on which were represented 'the court of the Areopagus and the trial of Orestes', were valued at 1,200,000 sesterces (£10–11,000); and we may perhaps trace the influence of this work in a silver cup in the Corsini collection at Rome. Again, we hear that a cup by Pytheas, weighing only two ounces, with the 'Rape of the Palladium', sold for 10,000 *denarii* (about £350); and this subject is found on one of the ewers from the Bernay treasure (see below), and, with modifications, on a number of gems, one of which, with the signature of the artist Felix, is shown on Pl. LXXV.

Schreiber has, with great learning and ingenuity, maintained the hypothesis that 'Toreutic' was mainly practised at Alexandria, and thence found its way to Rome. His argument is mainly based on the prevalence of Egyptian decorative motives (such as the lotus) on Roman bronze vessels; but there are not wanting indications (such as that afforded by Pliny's list of artists, which contains no name connected with Alexandria) that there were other centres of production at least as important.

It is essential to distinguish two classes of works which were highly prized by ancient collectors of plate. These are:—

(*a*) *emblemata*, figures or groups in the round or in high relief, which were attached to the centre of the interior of shallow bowls (*paterae*, Gk. φιάλαι);

(*b*) *crustae*, or plaques of silver decorated in *repoussé*, which were attached as an external covering to smooth two-handled silver bowls (*scyphi*).

These two forms of work are clearly distinguished by Cicero in the Fourth Verrine, where he tells us that Verres removed *crustae* AUT *emblemata* from the plate of the Haluntians and restored to them *argentum purum*. In the Digest we hear of silver cups *crustis aureis illigata*; but in the specimens which are preserved to us the reliefs are in silver, either wholly or partly gilded.[1] We might perhaps gather from the text of Pliny that both branches of the art of *caelatura* were actively practised under the early Empire; for at the close of his alphabetical list he names Pytheas as the maker of a *phialae emblema* (see above) and Teucer as a *crustarius*, or specialist in the designing of bands of relief. If these artists were later in date than Pasiteles, they were not earlier than the Augustan period; and the latter is possibly to be identified with a gem engraver of the school of Dioscurides (p. 421).

But the evidence of the finds of Roman plate is more conclusive. Besides the discoveries made in two or three Pompeian houses,[2] important hoards of silver vessels have come to light in various places, which belonged either to the treasuries of ancient temples or to private persons. Typical of the first class is the 'Treasure of Bernay', discovered in 1830 on the site of a sanctuary of the Gaulish Mercurius, and buried in the second century A.D., though earlier in date; amongst its sixty-nine pieces were nine pairs of vases—we shall see that the *caelator* usually worked in pairs (*paria*)—of which the finest were two *oenochoae* or ewers with scenes from the Trojan cycle; while the second is represented by the yet more famous Hildesheim treasure of seventy pieces, found near Hanover in 1868, and preserved in the Berlin Museum. This latter hoard had been carefully packed and buried at a considerable distance from the nearest Roman settlement, a fact which lends colour to the theory that it was part of the campaigning outfit of a Roman commander. It is noteworthy that there are three sets of three vessels, i.e. the dinner-service of a *triclinium*. It has naturally been suggested that the treasure may have been deposited during the operations of Varus or Germanicus; but it contains two tumbler-shaped vases of barbaric style, inscribed M.AVR.C., which points to the Antonine period. But the most remarkable treasure yet brought to light is that of Bosco Reale, discovered on April 6, 1895, in the *villa rustica* described on p. 172, and presented to the Louvre by Baron Edmond Rothschild. It was found, together with three skeletons—those of the mistress of the *villa* and two men, probably her *procuratores*, in the hall of the wine-presses, which had been fitted up with a couch, &c., for the lady's temporary use. We can hardly doubt that her name

[1] The only important work in pure gold which we possess is the '*patera* of Rennes', in the Cabinet des Médailles; but this is of late date, and is much overburdened with ornament, in the decadent taste of the third century A.D. (it is adorned, *inter alia*, with gold coins ranging from Hadrian to Geta).

[2] The surviving inhabitants of Pompeii excavated and carried away the greater part of their valuables shortly after the destruction of the city.

was that which we find on 45 out of the 108 pieces of which the treasure is composed—Maxima. The plate in her possession was of various dates and styles, and many of the pieces had passed through the hands of other owners: the name of Pamphilus, freedman of Caesar, may be read on four salt-cellars in the classical Augustan manner beside that of Maxima; and a pair of *scyphi* with a naturalistic design of olive-leaves appears, from the inscriptions scratched on the foot of one of the vases, to have passed through three collections. The weight of the more important pieces is given in pounds, ounces, and scruples. The Romans

Fig. 62. Cup found at Alise-Sainte-Reine.

distinguished the *argentum escarium* and *a. potorium*, or eating- and drinking-vessels, which went to make up a *ministerium* or 'service' of plate, from the *argentum balneare* (mirrors and other toilet-objects), which belonged to the *mundus muliebris*; and both types of work are well represented. The finest specimens belong to the class of *argentum potorium*, whether actually used for drinking or (as must have been the case with the more valuable pieces) for the adornment of the table. The choicest examples of the *mundus muliebris* are the silver mirrors—an invention of Pasiteles, according to Pliny. One of these, with a bust of a Bacchante treated as an *emblema*, is signed by the artist M. DOMITIUS. POLYGNOS, evidently a Greek freedman.

The cup reproduced on Fig. 62 was found in 1862 at Alise-Ste-

Reine, the Alesia of Vercingetorix's last stand, and shows the naturalistic ornament of the first century B.C. at its best. The handles, as we shall see, are characteristic of the *scyphus*, but the form of the vase is rather that of the *cantharus*. We find many allusions in literature, beginning from the time of Cicero, to bowls or dishes with vegetable designs (*lances* or *paterae filicatae, pampinatae*, and so forth); and we have seen a good example of the same type of decoration in the sculptured altar with a design of plane-leaves in the Museo delle Terme (fig. 59). The Bosco Reale treasure contains a pair of vases similar in shape to that of Alise-Sainte-Reine and in decoration to the altar. On the other hand, the conventional floral ornament of the Ara Pacis (cf. p. 388) is found on a number of examples. The *cantharus* proper, with plain handles rising from the base of the cup, is to be seen in two pairs of vases from Bosco Reale, one of which has figures of cranes, the other of storks with their nests. It has been observed that these latter birds do not build in Italy, but do so commonly in Asia Minor, a fact which may point to the place of origin of these cups. Fig. 63 shows a very different type of vase[1]—one of a pair found at Bosco Reale, which reproduces a Hellenistic motive made familiar to the Romans of the early Empire by the spread of popular philosophy. Beneath a graceful festoon of rose garlands we see groups of skeletons, to which are attached the names of famous Greek philosophers and poets, together with mottoes of frankly epicurean tendency. Our plate shows the best-preserved, though not the most interesting group. The skeleton of Menander holds in its right hand a torch (with the inscription ΖΩΗ), in its left a female mask; another mask (with the inscription CATYPOI) lies on a footstool at the poet's feet, and to the right we see the skeleton of Archilochus playing on the seven-stringed lyre. On the other side of Menander is a small skeleton playing on the double pipe, beside which is inscribed *εὐφραίνου ὀ(ν) ζῇς χρόνον*. On the other goblet the most striking group is that of Zeno pointing the finger of scorn at Epicurus, who is about to take a cake from a tripod which stands between the rival teachers, while a pig—*Epicuri de grege porcus*—is claiming his share of the dainty; the motto of the scene is *τὸ τέλος ἡ ἡδονή*. These ancient equivalents of the *danse macabre* remind us of the skeleton at Trimalchio's feast, and the couplets which Petronius puts into the mouth of the host.

But the goblets which we have described are not a characteristically Roman product. Such are not wanting in the treasure of Bosco Reale. The *patera* with *emblema* is represented by a bowl containing a portrait-bust, giving an extremely unsparing likeness of a hard-featured Pompeian trader;[2] the other, that reproduced

[1] The most appropriate name for it seems to be *modiolus*. The vase has three feet in the form of shells.

[2] A companion bowl, with the head of a woman, is lost; but the *emblema*, which had been removed in antiquity, was found separately, and is now in

on Fig. 64, is a much more ambitious work of art. The *emblema*, which weighed 7½ Roman ounces, while the *phiala* weighed 2 lb. 2½ ounces, was at first thought to be an allegorical figure of the city of Alexandria, and thus to furnish confirmation of the theory which traced the origins of Roman *caelatura* to Egypt; but it has since been recognized (from a comparison with kindred monuments) that the elephant's scalp and tusks worn as a head-dress are distinctive of the province (or continent) of Africa, whilst

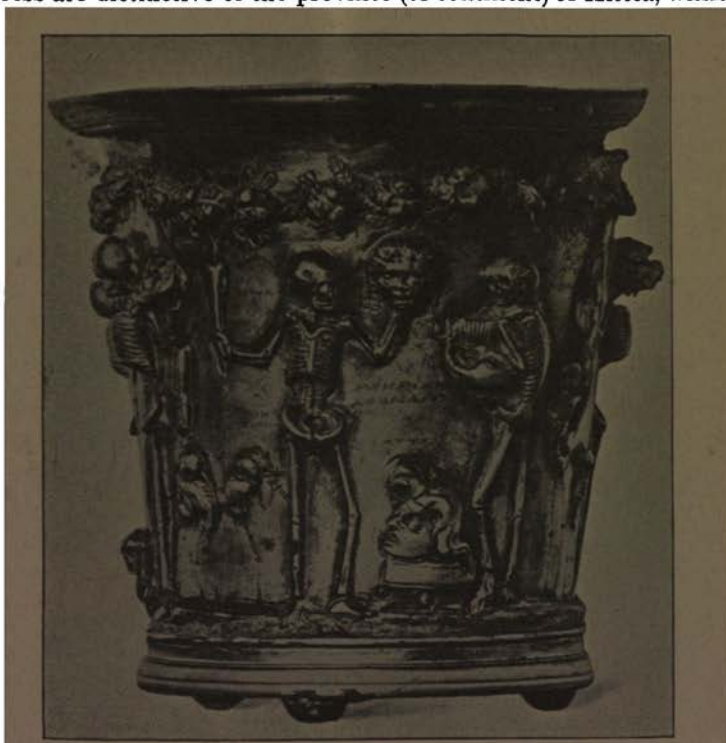


FIG. 63. Goblet from Bosco Reale.

the conventional representations of Alexandria are quite different. The figure was gilded, and as the ears are pierced, it must have worn earrings which are now lost; we read in an inscription of a *golden* figure of the town of Noreia (Klagenfurt) which adorned a similar *phiala*. The attributes by which the bust of Africa is surrounded detract a little from the artistic merit of the conception, and are tokens of the Roman craftsman's tendency to overload his work with detail. They are all symbolical of divinities and

the British Museum. The *coiffure* is that used by the empresses of the Julio-Claudian dynasty.

natural powers, and recall the *signa Panthea*, or images of a divinity surrounded by the symbols of many others.[1] Here we find the panther of Dionysus, the bow and quiver of Diana, the club of Hercules, the tongs of Vulcan, the sistrum of Isis, the serpent and wand of Aesculapius, the sword of Mars, the lyre of Apollo, and the dolphin of Neptune ; the *cornucopiae* is surmounted by the crescent moon and adorned with a bust of the sun-god, the eagle of Jupiter, and the caps and stars of the Dioscuri.

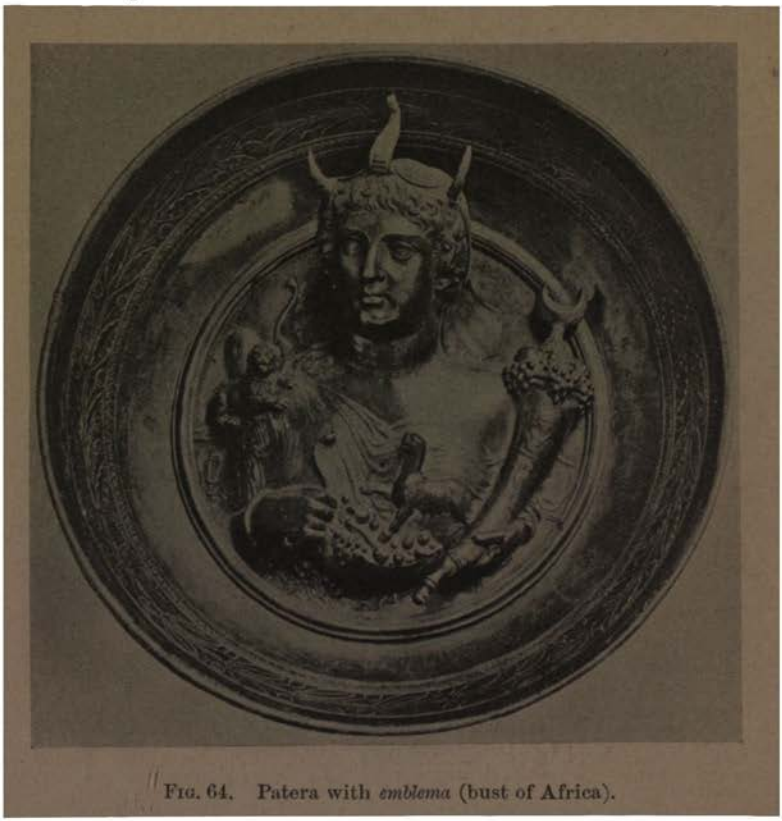


FIG. 64. Patera with *emblema* (bust of Africa).

But the most remarkable of the finds of Bosco Reale are the two *scyphi* with *crustae* bearing historical reliefs. When the treasure was purchased by Baron Edmond Rothschild and presented to the Louvre, these were reserved for his private collection. One face of each cup is shown on Pl. LXXVIII. They may at least be dated with certainty to the reign of Augustus, since one of them celebrates the glories of that emperor, and the other represents a triumphal procession of Tiberius. The first represents on its two

[1] On a lamp in a Roman collection we find Roma surrounded by a group of emblems almost identical with those of the *phiala* from Bosco Reale.

A. Augustus receiving homage from barbarians.

B. Sacrifice to Jupiter Capitolinus.

Silver cups from Bosco Reale.

faces the ideal and real aspects of Augustus's supremacy. On that which is here shown we see the emperor seated on the *sella castrensis*, surrounded by lictors and praetorians, and receiving the homage of conquered barbarians (seemingly of German stock) who are presented to him by a Roman commander. The frank naturalism and spontaneity of the composition, and the tendency to crowding, betray the hand of the Roman artist, and contrast with the somewhat conventional scheme of the other face. Here Augustus is enthroned on the *sella curulis*, holding the roll and the globe, and is approached by a group of three divinities, which have been variously interpreted, but are most probably Venus Genitrix (or Livia idealized under that aspect), with Honos and Virtus, the two gods of the army. On the other side of Augustus we see Mars heading a procession of personified provinces, amongst which is Africa wearing the elephant's scalp. The two scenes on the second cup are more intimately connected than those just described. On one side we see Tiberius, wearing the *corona civica* and holding a laurel-branch and sceptre, riding in a triumphal car adorned with reliefs of victories; he is attended by lictors and other persons in civil costume, all crowned with bay, and at the head of the procession is a bull adorned for sacrifice. On the other face (Pl. LXXVIII B) is seen the immolation of the bull in front of a temple shown to be that of Jupiter Capitolinus by the figure of an eagle in the pediment. This vase has unfortunately suffered much damage, but the scene of the slaying of the bull, which is well preserved, is powerfully and freshly treated, and strikes a note quite different from that of the classical motive of the bull-slaying Victory.[1]

In the originality of their design and the vigour of its execution these cups are worthy to form a landmark in the early history of Roman Imperial art, and it is of some importance to determine their date. Héron de Villefosse thinks that the procession in which Tiberius takes part is that of Jan. 1, 13 B. C., when he held his first consulship, and that the sacrifice was that which he offered in 12 B. C. before setting out for Pannonia. Mrs. Strong refers both cups to the German campaigns of 8–7 B. C., after which both Augustus and Tiberius were acclaimed *imperatores*. Both, therefore, place the cups in the period to which the sculptures of the Ara Pacis belong (cf. p. 388). These views are at least more probable than that of von Domaszewski, who holds that both cups reproduce designs which date from the beginning of Augustus's reign, referring the prototype of the procession to the triumph of 29 B. C. (which involves the more than unlikely supposition that the head of Tiberius was introduced into the composition by a later artist), and explaining the conquered peoples who are doing homage to Augustus as the Spanish tribes subdued in 25–24 B. C.

[1] The Bosco Reale treasure contains a pair of *oenochoae*, or ewers, decorated with this well-known motive. Their handles display the lotus ornament believed by Schreiber to indicate Alexandrian origin.

But it is surely more natural to refer both cups to the later years of Augustus, when Tiberius was his consort in the Principate; an occasion is easy to find in the suppression of the great Dalmatian revolt of A. D. 6–9. Germanicus was dispatched by Tiberius to announce the submission of the revolted tribes, and we may recognize him in the commander who appears before Augustus. The triumph so hardly earned by Tiberius in this war was deferred until A. D. 12 by the news of Varus's disaster, but we are told that he made his entry into Rome *praetextatus et laurea coronatus*; and this corresponds closely enough with the scene as we have it on the second cup, where Tiberius (though the *corona civica* is held over his head) carries a branch of laurel. Certainly the art of these cups marks an advance on that of the Ara Pacis in the direction which purely Roman art was afterwards to take; and motives such as the slaying of the bull and the barbarian whose child mounts on his shoulder in order to catch a glimpse of the emperor had a long future before them.

Pliny tells us that the art of the silversmith fell into such complete decay that in his time plate was valued only for its age; and though this may be exaggerated, it is true enough that the finest specimens of *emblemata* and *crustae* are all of the early Empire. A splendid *emblema* of Athena seated in the Hildesheim treasure is purely classical in conception and can scarcely be post-Augustan; another of the infant Heracles strangling snakes (a subject which recalls the 'infant Roscius enwrapped in the coils of a serpent', ascribed by Cicero to Pasiteles) is comparable in style to the 'Africa' from Bosco Reale. The latest pieces in the last-named collection are a pair of *scyphi* with still-life subjects—game, fruit, &c.—signed by the artist Sabinus; and they are on a much lower artistic level than the rest of the treasure. In later times the most ambitious products of the *caelator* were the *clipei*[1], or circular dishes, which were dedicated in temples or presented by emperors and high officials to their subjects or subordinates. Several of these are preserved, the earliest being that of the Bernay treasure, dedicated to Mercury by C. Propertius Secundus; the latest belong to the closing years of the Western Empire.

§ 7. Minor Arts.

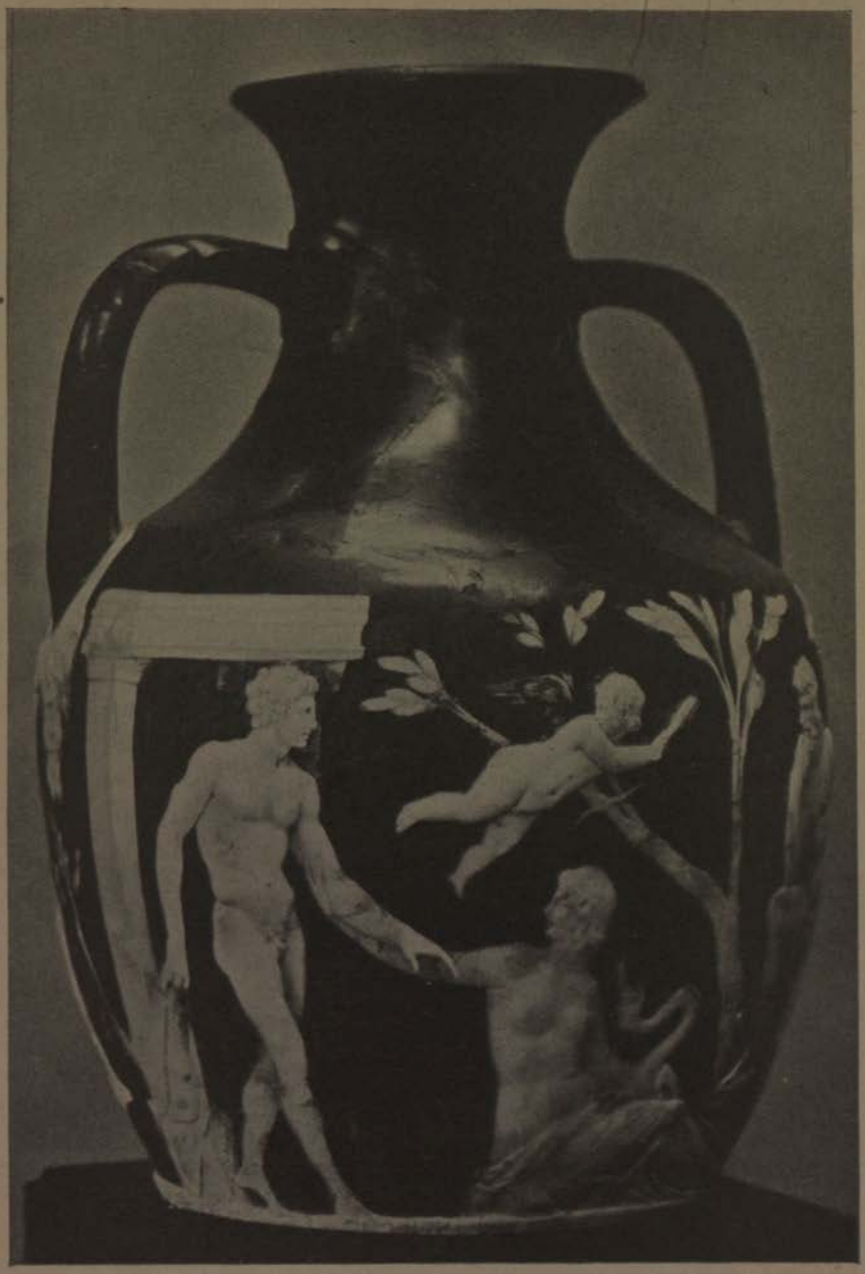
In order to complete our picture of Roman art it is necessary to say something of the artistic handicrafts of the potter and glass-worker, whose products serve to fill some of the gaps in our knowledge. The importance of these products lies in the fact that they were sold as substitutes for work in precious metals and materials, from which they were often directly imitated. Thus the glass-worker reproduced the product of the gem-engraver in a cheaper form, and the potter that of the silversmith. We shall speak first of glass, as it was the more artistically treated.

[1] Known as *missoria* in late Latin.

The early history of glass-working need not here be discussed. The legends recounted by Pliny and Josephus concerning the accidental invention of glass place its discovery in Syria; but there can be little doubt that the Egyptians were the first to manufacture it. Probably a vitreous glaze was first applied to terracotta plaques, and this was followed by the use of glass as an independent material. Egypt continued to be the principal centre of the industry in Ptolemaic times, and it was doubtless from Alexandria that glass was first imported to Italy. The earliest Roman writers by whom it is mentioned are Cicero and Lucretius, and we hear that in 58 B. C. Scaurus decorated the stage front of his temporary theatre in part with glass, no doubt in the form of relief-plaques, which we must suppose to have been brought from Alexandria. Soon, however, the manufacture of glass became established in Italy, especially in Campania, where the sand of the coast-line between Cumae and Liternum, according to Pliny, was found especially suitable for this purpose. It is possible, moreover, that some of the Sidonian glass-workers, of whom we shall presently speak, transferred their manufactories to Italy. The result was that glass came into general use under the early Empire and tended to displace pottery in the household. From Italy the new industry spread to the Western provinces, especially North-eastern Gaul, and there is no doubt that it was carried on in Britain; remains of furnaces, slag, &c., have been found at Wilderspool in Cheshire.

When the Romans began to manufacture glass the secrets of the art had already been discovered. The simple fusion of sand with an alkaline substance at a high temperature produces a semi-opaque substance of a greenish hue by reason of the iron oxide present in the sand. The addition of manganese (in small quantities) purifies the product, and that of lead oxide renders it transparent and colourless; other mineral substances are used to give it various shades of colour—copper oxide, for example, was employed by the ancients in making blue glass, for which cobalt is now used. Moreover, the various processes by which the material is treated were well known. Originally the fluid paste was freely moulded into ornamental shapes; but the artistic glass-work of later times was either cut with the wheel or blown into moulds.

Cut glass was used in imitations of precious stones. An enormous number of paste intaglios of all colours are preserved, since they were commonly worn as signets by those who could not afford real stones. Besides these we possess many fine specimens of glass cameos and vases in layers of various colours. The ground of these is usually formed by a vase of dark blue glass, upon which is laid an opaque white layer; this was afterwards carved after the fashion of a cameo. Such works are called by Martial (xiv. 94. 1) *toreumata vitri*. The finest examples are an amphora about a foot high, found in a tomb at Pompeii and decorated with vegetable ornament and *putti*, and the Portland vase, now in the British Museum,



Mansell & Co.

The Portland vase.

adorned with mythological scenes drawn from the legend of Peleus and Thetis, whose courtship is depicted on the side reproduced (see Pl. LXXIX). This vase is usually said to have been found in a sarcophagus of the early third century (now in the Capitoline Museum) discovered near Rome; but this is a baseless tradition, and in any case the vase belongs to the Augustan period at latest. The British Museum also possesses an *oenochoe* in the same technique with vegetable ornament, found at Pompeii and known as the Auldjo vase. The ancient glass-cutters were not, however, content with working in relief. We possess some specimens of glass cups, mostly egg-shaped, which are contained within a network of glass of a different colour, entirely worked *à jour* and attached to the body of the vase by a number of short props or *puntelli*. The origin of this technical *tour de force* is to be sought in the imitation of glass vessels contained in a setting of gold or silver open-work, of which there is a fine example in dark violet glass adorned with hunting-scenes in silver *repoussé* in the Hermitage at St. Petersburg. Most of the cups mentioned above are enclosed in merely ornamental network, sometimes of the same colour as the body of the vase, and bear drinking mottoes in raised lettering; but we may class with them a cup formerly exhibited in the South Kensington Museum by Lord Rothschild, which is decorated with figures in deeply undercut relief (some worked separately and attached by props) representing the madness of Lycurgus and his punishment by Dionysus. We cannot doubt that this whole class of vases is to be identified with the *calices diatreti* mentioned by Martial, the manufacture of which was so difficult that (as we learn from Ulpian) the workmen usually 'contracted out' of the risk of breakage. It has been much disputed whether the outer network was separately worked and soldered on to the body of the cup or produced by undercutting from a single piece of glass (sometimes in two layers). Recent examinations of the examples preserved at Munich and Vienna have shown that (in spite of the enormous expenditure of labour and time involved in the process) these *diatreta* were made in one piece; they are, in fact, signal examples of the tendency in Roman times to seek for artistic triumphs in the working of difficult materials rather than in beauty of design. The network was blocked out by drilling large holes in the upper layer of the vase, and the undercutting was then carried out with the wheel. There are, however, some examples (one in a fragmentary state at Bonn) where the outer network is formed by a separate vessel in which the body of the vase was fixed by means of props. Cut glass of the fashion produced in modern times was brought into fashion by the northern schools—especially those of Cologne and Trèves—in the third century A. D. Such glass generally shows ornamental motives only, but there are one or two specimens with mythological subjects, and a fragment at Trèves is decorated with a scene from the chariot races of the circus. The vases with engraved

patterns—sometimes also adorned with scenes from the circus and arena, or with views of towns, such as that of Puteoli, found on a vase discovered at Odemira in Portugal, evidently a souvenir bought by a tourist in Italy—stand on a much lower artistic plane.

The manufacture of glass in moulds with the blow-pipe seems to have begun in the Augustan period; at least we have no certain example of earlier date, and the supposed invention of the blow-pipe by the early Egyptians is a fiction. This discovery made the production of artistic glass-work into a profitable industry on a large scale, and also brought transparent and colourless glass into general use. The new industry was practised by a school of craftsmen, bearing Greek names but domiciled at Sidon, whose vases have been found in almost all provinces of the Roman Empire. Their work is quite independent of Alexandrian tradition, and modelled rather on the forms of Hellenistic pottery. Indeed, from this time onwards the history of cast- and blown-glass runs parallel to that of ceramics. Ennion, the chief master of the new school, does not mention his nationality on his stamps. His vases are most commonly two-handled *scyphi* with vegetable ornament, or Dionysiac figures and symbols, and vary in colour; some are amber-coloured, others cobalt blue. He was probably a Sidonian, like the artists Artas, Nikon, Irenaeus, and Ariston. Artas signs in Roman as well as Greek characters, Ariston in the Roman alphabet only, and we have also the signature of a certain Asinius Philippus, found in Rome. It is therefore not unlikely that members of the school found their way to Rome, and thus transplanted their industry to the West. Certainly it took root in Campania, especially at Puteoli (where we hear of a street of glass-workers called the *clivus vitrearius*), and by the close of the first century A. D. workshops had been established in Gaul and probably also in England. The chief products of these were the *scyphi* adorned with scenes from the circus and arena, which are of antiquarian rather than artistic interest. They are often inscribed with the names of famous charioteers and gladiators (cf. p. 366).

In Imperial times gilding and colour were freely applied to the surface of glass vases. Painted specimens are rare, and not as a rule of great artistic merit; they have been found as far north as Scandinavia, and seem to have been executed in the industrial centres of the Rhineland. The gilding of glass in the process of manufacture was commonly practised in Hellenistic times, especially in Egypt; but in the Roman period the most popular *technique* was that of placing a medallion of gold-leaf, on which patterns had been traced with a sharp point, between two layers of glass. A large number of such medallions (about 350) have been found in the catacombs; the vases to which they belonged have been broken, and the central part with the gold-leaf stuck in the plaster of the walls. This *technique* was not, however, practised in Christian workshops only, and some pagan examples have been found both

with mythological and *genre* subjects (such as that which represents a shipbuilder amongst his workmen, now in the Vatican). A much more elaborate technique, in which gold-leaf and coloured enamels are laid on the surface of the glass, is illustrated by a few examples found in or near Cologne, showing Christian subjects. Finally, ornament was sometimes applied to the surface of glass vessels either in the shape of threads of glass separately worked, or by the *barbotine* process which belongs more properly to the art of pottery, and will be mentioned below.

A word must be said concerning the *vasa murrina* so highly prized by the Romans, the nature of which is still in dispute. Pliny declares that the material of which they were made was a natural product extracted from the earth and found chiefly in Parthia; he also tells us that specimens were first brought to Rome by Pompey at the time of his triumph over Mithradates, and mentions examples of the high prices which they fetched, such as that valued at 300,000 sesterces which was destroyed by T. Petronius lest it should fall into the hands of Nero, who was an ardent collector of *murrina*, and paid one million sesterces for a single *capis* or ladle-shaped bowl. Hence the substance of the *murrina* has been identified with many precious materials such as agate, onyx, &c.; but the vague description of Pliny, who speaks of its great variety of hue and alternating opacity and translucency, does not suffice to determine its nature. On the other hand, both Arrian and Propertius speak of the *manufacture* of *murrina*[1]; and it has even been thought that they were of Chinese porcelain. It is easy to suppose, however, that the name may have been given both to a precious material and to imitations of the same in glass. The most recent theory, however, would recognize the *murrina* of antiquity in the so-called *millefiori* glass, made by a process akin to mosaic which was invented in Egypt. In this technique a number of fine glass filaments of various colours were placed together vertically so as to form a pattern, and then fused into a single mass, which of course displayed the pattern wherever cut. The *millefiori* vases are made of such pieces of mosaic, and were doubtless highly prized for the richness of their colour; but they could never have been supposed to be made of a natural substance whose 'spots' and markings gave value to the real *murrina*. It must therefore be confessed that the true nature of these is unknown.

Pottery in the Roman, as in the later Greek period, no longer took the high place as a substantive art which belonged to it in the days of the Attic vase-painters (or even those of Lower Italy). It has been explained in § 6 that in the households of the rich gold and silver plate came into use in the Hellenistic period and ousted painted pottery; and the works of the *toreutes* were imitated (for the use of those who could not afford to possess

[1] Arrian says that the manufacture was carried on at Thebes in Egypt; Propertius speaks of *murrina* 'baked in Parthian kilns'.

them) in the humbler material. The principal Greek fabrics which owe their existence to this fashion are (*a*) the so-called 'Megarian' or 'Homeric' bowls, hemispherical and without handles, made of red clay but covered with a metallic black glaze, and either cast wholly in a mould or adorned with figures impressed by means of separate stamps; and (*b*) the *phialae* or shallow bowls with designs in the interior, especially in the form of a central medallion. These manufactures found their way into Italy in the third century B.C. The 'Megarian bowls' were imitated by a group of potters who use a separate stamp for each figure or ornamental motive, and sign their names *en barbotine*; they are almost all purely decorative, but one signed by G. Popilius of Mevania in Umbria represents a fight between Greeks and barbarians; the scene is borrowed from the well-known mosaic of the battle of Issus copied at Pompeii. These bowls are covered with a brown, yellow, or black slip, and are artistically inferior to the best of their Greek prototypes; but the black-glazed *phialae* of Cales in Campania are the finest of their kind, and have given to the fabric the name which it usually bears (Calene ware). One of those which have an internal frieze bears the signature of L. Canoleios (Canuleius) of Cales; and amongst the potters who designed central medallions two have left their names—K. Atilius and G. Gabinius. The subjects are generally taken from Greek mythology; but we find the Roman wolf and twins on an example in the British Museum. The close dependence of this kind of pottery on metal-work is illustrated by a bowl in the British Museum with an internal frieze of chariots (representing the apotheosis of Herakles) which exactly reproduces the *repoussé* design of two silver bowls from the treasure of Èze (in the south of France) also in the British Museum.

These fabrics, in which Italian potters adhered closely to their Greek models, were replaced about the middle of the second century B.C. by the most famous ware of the Roman world—that manufactured at Arretium (Arezzo) in Southern Etruria, and afterwards imitated in many provincial centres. The specimens of this in modern collections were long known as 'Samian ware', on the ground that 'Samian pottery' is often mentioned by Roman writers; and it is possible that not all the 'Samian' ware used by the Romans was made at Samos, just as we shall see that not all 'Arretine' ware was manufactured at Arretium. Nevertheless, the discovery of potteries, vases, and fragments at Arezzo leave no doubt as to the identification of the *vasa Arretina* mentioned by Martial. They were made of the red local clay, which when baked takes a rich coral colour, and covered with a fine red glaze, the essential constituents of which were silica, oxide of iron, and some alkaloid substance hitherto undetermined. This, however, was not invented before about 100 B.C.; the earliest Arretine ware, like the Campanian, has a metallic black glaze. The pieces are generally stamped with the name of the manufacturer, and also with

that of the workman (sometimes designated as *servus*) who actually designed the vase. The most important workshops were those belonging to P. Cornelius, who employed about forty slaves whose names are known to us; the families of the Annii, Titii, and Rasinii; and above all M. Perennius, who turned out the most artistic vases, such as that representing Alexander's chase of the lion, now in the British Museum (Fig. 65). The names of the slaves employed are generally Greek or Oriental; it is to be noted that the most cunning of the craftsmen who worked for Perennius —Tigranes and Bargates—bear names which point to Asia Minor, the home of the 'Toreutic' industry whose products furnished the potters with their models.

These Arretian vases are chiefly important as illustrating the cross-currents of art in the period which saw the establishment of the Roman Empire. They fall into two well-marked classes. The

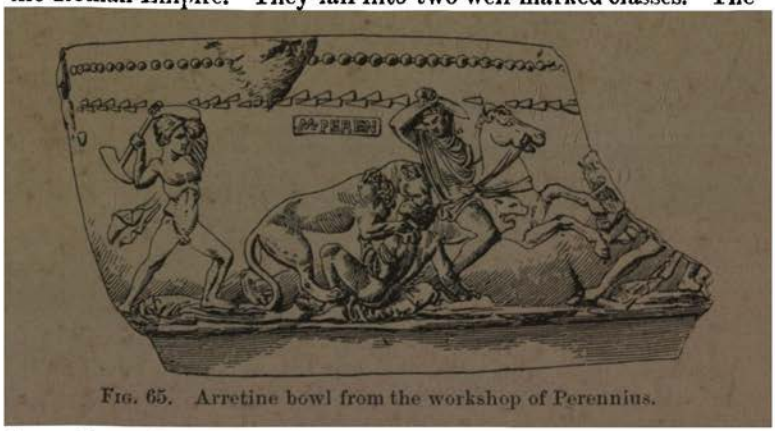


FIG. 65. Arretine bowl from the workshop of Perennius.

decoration of the first is made up of single types—especially Satyrs, Maenads, &c., from the rout of Bacchus, figures of Seasons, Muses, or dancing priestesses, &c.—repeated without inner significance; we are familiar with them on the so-called 'Neo-Attic' reliefs of the same period. Most of the work turned out by M. Perennius and his slaves is of this kind, though we must make an exception for some more elaborate compositions, such as that on a bowl by Bargates, now at Boston, which represents the fall of Phaethon. The second class is distinguished by its naturalistic ornament, recalling the fine Augustan work of the Ara Pacis: the vases of P. Cornelius afford good examples. We also find landscape treated after the manner of the Hellenistic reliefs. A vase of M. Perennius in the British Museum (Fig. 65) has a hunting-scene in which Alexander the Great is shown in the act of slaying a lion; this was no doubt taken from a well-known Hellenistic original in precious metal. The *forms* of the vases—chiefly cups and bowls without handles—are evidently imitated from metal.

In the first century A.D. the Arretine ware degenerated in quality, and fresh centres of manufacture were established, whose products came into competition with those of Arezzo. There was certainly a fabric at Puteoli; but what is more important is the gradual transference of the manufacture to extra-Italian centres. From the number of stamps found at Tarragona with the inscription A TITII FIGVL(*i*) ARRE(*tini*) it has been inferred that A. Titius set up a factory for the making of conventionally termed 'Arretine' ware in Spain. But the future lay with the Gaulish potteries, the earliest of which were set up in the valley of the Allier, especially at St. Rémy. The vases produced in this district are of small artistic value, and show but little trace of the influence of the Arretine potters; but they can be dated with certainty to the close of the first century B.C., and show that the introduction of Arretine processes and forms into Gaul dates from the following period. In the first century A.D. a flourishing industry was established in the country of the Ruteni (the Cevennes), especially at Graufesenque in the Department of Aveyron (the ancient Condatomagus). The red ware imitated from that of Arretium is generally called *terra sigillata*, i.e. earthenware decorated with stamped patterns (*sigilla*). At first only ornamental motives were used, with a few single figures enclosed in panels, and nearly all the Graufesenque pottery is thus decorated. The makers whose signatures are found on the vases bear Latin names, and it is to be noted that these wares were exported even to Italy, when the manufactures of Arretium and Puteoli were declining in importance. Several specimens (one signed by the potter Primus) have been found at Pompeii.

Towards the close of the first century A.D. the Rutenian potteries were eclipsed by those of Auvergne, established in the valleys of the Dore and Allier, especially at Lezoux, where the industry seems to have flourished from the Flavian period down to its extinction in the troubled times of Gallienus (about A.D. 260). The earliest makers whose signatures occur all bear Gaulish names; but the most important artists of the school were Libertus, who lived under Trajan, and Paternus and Cinnamus, who belong to the period of the Antonines. The signatures are sometimes those of the manufacturer or *figulus* (with the addition of OFFICINA or its abbreviations), sometimes that of the *sigillarius* or creator of the type, to whom the credit of such artistic merit as these fabrics possess is due. The subjects are not of much intrinsic interest; hunting-scenes are common and often treated with spirit.

In the second century offshoots of the Auvergnian fabrics were established in Germany, notably at Westerndorf, between Augsburg and Salzburg, and at Rheinzabern near Speier. The chief artist of this latter fabric was Cerialis. These wares were largely exported to Britain.

Beside the red ware, we find in the Gallic and German potteries

many vases decorated *en barbotine*, i. e. with a fluid clay slip laid on with a spatula or tube on the surface of the vase, like the sugaring of a cake. At first this was only applied to common ware, but towards the end of the first century A. D. the technique became much more developed; the artists proceeded from simple ornament to figure-subjects which are sometimes effectively treated; as the slip must be applied by the free hand, there is considerable scope for originality. It is thus that the best pottery produced in Britain—that of Caistor (*Durobrivae*) in Northamptonshire—is decorated. Elaborate mythological subjects were sometimes treated by these potters, not without success.

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J. P. Gibson.

Specimen of Caistor ware, from Corbridge-on-Tyne.

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